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AUTHOR	Voegel, George H.
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ABSTRACT

A 6-week summer workshop on instructional development took place at William Rainey Harper College (Illinois) in 1968. Six outside consultants and 10 faculty members discussed topics relating to (1) developing instructional concepts for courses, units, and learning steps; (2) developing instructional objectives, criteria and conditions of performance; (3) modifying and refining objectives, course outlines, and related tests; and (4) developing instructional strategies and tactics that will help achieve the objectives. An important outcome of the workshop was the participants' realization of the complexity of instruction that is based on behavioral objectives. The diversity of opinions presented by the consultants enabled each to select the most suitable techniques for his subject matter and his own skills. Three follow-up sessions were held during the following year. The participants reported on the progress they had made in teaching their various courses. [Not available in hard copy due to marginal legibility of original document.] (MS)

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UPDATE #1

A REPORT OF THE BEGINNING EFFORTS IN INSTRUCTIONAL DEVELOPMENT

at

WILLIAM RAINEY HARPER COLLEGE

prepared by

George Voegel, Dean
Learning Resources
January, 1970

UNIVERSITY OF CALIF.
LOS ANGELES

APR 23 1970

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with the cooperation of:

The Faculty

Martin Ryan
Frank Oliver
Rose Trunk
Jay Singelmann
Donovan Wachlin
Ray DePalma
Irene Sanderson
William Miller
Robert Tillotson

The Consultants

Dr. K. Gene Faris
Dr. Alfred Canfield
Mrs. Anne Roe
Dr. Jack Edling
Dr. Susan Markle
Dr. Phillip Tiemann
Dr. Steven Yelon

JC 700 069

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PART I

INSTRUCTIONAL DEVELOPMENT BACKGROUND

The background for the development and growth of this first Instructional Development Report, UPDATE I, had its germination in the spring of 1968. It began at two levels within the college, one at the instructional level in two interested instructional divisions located at the Elk Grove temporary campus, and the other level with the president who expressed concerned interest in curriculum and instruction in his spring address to the faculty. The interested faculty wanted to learn more about developing instructional objectives and strategies. The president's concerns were shared with the faculty in his spring address to them and were later included in his President's Report, 1965-1968. These problems in higher education may be stated as:

1. Inflexible modes of operation which do not serve the rapidly changing technological society.

2. The lack of assimilation at the instructional level of research on the learning process, teaching techniques, and curriculum development.

3. Unattainment of efficiency and effectiveness in educational institutions.

4. Applying systems analysis to the management of the educational process.

5. Low correlation between what is being taught and what is being learned.

6. Greater need for individualizing instruction.

7. Administration needs to tap the talents of students and faculty to participate in institutional problem solving.

One of the outcomes of this dual interest in the improvement of instruction was the creation of a S.P.E.D. Committee (Special Projects for Educational Development) composed of faculty representatives from various instructional areas. The basic purpose of the committee was encourage and review faculty originated proposals for instructional improvement. Two divisions submitted similar proposals to the committee which were so appropro to some of the problem issues indicated above, that the Deans and President felt that this should be taken out of the context of two S.P.E.D. projects and put on an institutional basis as a summer in-service or faculty development project.

A six weeks, afternoon only, workshop was organized by the Dean of Learning Resources to coincide with Harper's first eight week summer session which was scheduled in the evening at the Elk Grove High School. A pertinent part of the rationale for this curriculum development project was the following statement:

> The faculty involved in such an instructional process is an important one, and one which is undergoing change. Some forward looking educators indicate that the lecture method is not entirely adequate for the transmission of knowledge and content, and that this is being replaced by a more individual teacher-pupil relationship which emphasizes what a particular student is learning rather than a package of knowledge which the teacher can present. A good teacher then is more than a content specialist, dispensing information about his subject, but is more like a diagnostician who knowing what he wants the student to learn, motivates this student, and prescribes what is needed for this student to achieve these outcomes. The teacher's goal in this process is

to produce students achievements in such forms as improved language art skills (more broadly - symbolic behaviors), new insights, new attitudes and appreciations, and new abilities in whatever subject area that is undertaken. Thus, not only is more training needed in developing theappropriate instructional materials but the Harper faculty involved in undertaking this process will need to become aware of various curriculum approaches for learning.

The workshop content was outlined according to the following weekly timetable:

1. Explore and develop instructional concepts of program, courses, units, and learning steps.

2. Begin to develop instructional objectives and components of task, criteria, and conditions of performance.

3. Continue objective development and establish performance objectives for course units.

4. Modify and refine objectives, outlines, etc. and begin to develop related tests.

5. Begin to develop instructional strategies and tactics to help achieve the objectives.

6. Continue development of strategies and tactics, and begin selection of appropriate materials and develop ideas for changes in succeeding semesters.

The coordination of this endeavor was done by the Dean of Learning Resources. Six consultants, in the form of outside expertise, discussed the appropriate materials relating to the topics above. The usual format of these consultants was a one-hour presentation of their own involvement, experiences, and work in their specialized area of instructional development, followed by informal discussion with the workshop participants.

Twelve faculty members from various subject areas were chosen to participate in this summer workshop Due to scheduling loads and other conflicts, two staff members were unable to attend the complete six weeks and were not full participants, which left ten participating faculty members. This represented one-fourth of the total full time faculty at that time, however a number of participants were new staff members coming on full time in the fall so the ten actually represented one-eighth of the faculty for the Fall 1968. In addition to the Harper summer workshop, a number of faculty took institutes, workshops, and courses at senior colleges and universities, the outcomes of one such course for one faculty member is presented in this report also.

It must also be mentioned here that the Harper College Board of Trustees has actively supported the professional improvement of its faculty. First, under the Policy Manual, section 3.5.1, Educational Grants, it approved the "payment of tuition and laboratory or other educational fees for faculty members for courses taken at other institutions" up to certain fixed amounts. Second, under the Policy Manual, section 3.5.2, Professional Expense Account, each faculty member can be reimbursed for professional journals, membership, and teaching supplies, not to exceed $75.00 per year. Also a sum of $15,000 was allocated for S.P.E.D. projects in 1968-69. Finally, the Board approved the funding of the sum-

mer workshop to include faculty stipend support, consultant fees and travel expenses, and materials for the time period of the workshop.

This report reflects a partial return on the investment made by the Board and the administration in the Harper College faculty.

PART II

QUOTABLES FROM THE NOTABLES

NOTABLES

Dr. Alfred Canfield, Director
State Board for
Community College Education
Olympia, Washington

Dr. Steven Yelon
Psychology Department
Michigan State University
East Lansing, Michigan

Dr. Susan Markle
Dr. Phillip Tiemann
Instructional Resources
University of Illinois
Circle Campus, Chicago

Dr. Jack Edling, Director
Teaching Research Division
Oregon State System
of Higher Education

Mrs. Anne Roe
Nursing Program
Broward Junior College
Ft. Lauderdale, Florida

Dr. Gene Faris, Director
HEW, Title VI-B
Faculty Development Institute
Indiana University
Bloomington, Indiana

QUOTABLES

The following pages contain notes and excerpts from the presentations made by the consultant/lecturers. Their specific topics were:

... An Instructional Systems Overview - Dr. Canfield

... Developing Objectives and Task Analysis - Dr. Markle, Dr. Tiemann

... A Learning Experience Guide (LEG) Approach to Nursing Instruction - Mrs. Roe

... The Use of Objectives and Task Analysis in Teaching Psychology - Dr. Yelon

... Teaching Research and Evaluation of Instruction - Dr. Edling

... Instructional Development Techniques - Dr. Faris

Since the actual sessions of the consultants with the workshop participants were spread over a six weeks period, the appropriate consultant commentary has been organized in a quasi-dialogue fashion under the following topics:

The Lecture Method
Research and Instructional Materials
Developing and Using Objectives
Concept and Task Analysis in Learning
Student Reactions and Evaluation
Teacher Involvement, Work Effort, and Effect
The Changing Role of the Instructor

ON THE LECTURE METHOD

... As the learner sits and listens, there is just no way in the world that you have of confirming what it is that you think they should be learning.

-Canfield-

... The large group sessions, we tried to have one day a week as we started for announcements, motivation, orientation to the program, and that sort of thing. It was not the routine lecture that they had been used to. Demonstrations we tried to do in small groups where it would lend itself better. Lectures were minimal, and in the evaluation examination they all had to attend. If they pretested through, they didn't have to go to anything except the clinical area.

-Roe-

... It is an incredible thing - one cannot help but wonder, how come we lecture? If in lecturing, the student gets very little knowledge of learning, particularily in terms of what it is he is supposed to be learning as seen by the instructor, why do we lecture? One, is that most people like it and really get a kick out of it and it has become a faculty member's thing, it's his bit or stick - to lecture.

-Canfield-

... We have a large lecture session. It's funny to watch because everytime a faculty member goes away from the lectern the students stop taking notes, and as soon as he gets back, they write again.

-Yelon-

... We set it up so that the college schedule allows us the three hours of lecture and six hours of lab a week and we always work within this framework of time so they are never in conflict between science, or sociology, or something else and they are all scheduled that way. The first hour of the week, we try to have orientation or motivation, or both in a large general session. The next two hours may be split so that we have certain students in certain small groups and the other students might be working in the lab, so it evolves in a small group and no full lecture even though the small groups in lab are scheduled for those hours.

-Roe-

... There is no evidence in any phase of literature that I find, to indicate that there is any relationship between learning outputs and student-faculty ratios in the predominantly lecture organized institution.

-Canfield-

ON RESEARCH AND INSTRUCTIONAL MATERIALS

... I want to remind you that in learning and research, the systematic and critical study of human learning and teaching is so new and developments are occurring so rapidly that existing summaries and standard references are of little value in gaining useful insights because they are either incomplete and thereby misleading, or based on faulty evidence and are thereby erroneous.

-Edling-

... In an experiment by Mager, his question was, "What will happen if the learner controlled the information role of the teacher or professor as contrasted with the present teacher controlled role?" The one consistent finding, that was not anticipated, was the way in which learners consistently restricted the flow of information to them from the instructors on the outside. Each learner was informed of what he would be able to do after the instruction. The usual procedure was for the student to make himself comfortable, inspect the various materials available, and then ask for instructions on where to begin. The phenomena which surprised the experimenter was the very high frequency with which the instructor would supply more information than the learner requested. This was made clear by the fact that repeatedly the learner would turn off the information that he wanted to supply the learner. But even more informative, *was the observed fact that even after the learner had turned off the professor's television camera, and the professor knew that his camera was turned off, the professor continued his explanation to the dead television camera despite the fact that he knew it was no longer operative.* Mager concluded that the role of information supplier to students is a need felt more by the instructor than by the student.

-Edling-

... We got faculty members with some very preconceived ideas as to what they wanted to achieve. The people in mathematics wanted to speak over television, somebody else wanted to make a film, somebody else wanted transparencies. It was quite a job when we started working with them and we said, "Let's back up now. Forget about what you want to do and let's see if we can justify what it is you want to do." And when we backed these people up, they were a little hostile, but in the end they were very appreciative of this.

-Faris-

... There is a difference between the objective the student is working with and the objectives of the detailed nature that are necessary for the designer of learning materials. I have found that a great many books are perfectly good programs, provided that student knows what he is suppose to get out of them.

-Markle-

ON RESEARCH AND INSTRUCTIONAL MATERIALS - *continued*

... If I can get something in a book that says what I am saying, it is probably easier and quicker and better. I can find a filmstrip or a slide, making it easier on me so that I don't have to talk so much, then I use it. Everything I talk about in class is represented somewhere else.

-Yelon-

... Rothkopf, Bell Laboratories, designed an interesting experiment to try to learn the contributions which teachers and professors might make in selecting materials which would be of maximum benefit to learners. Rothkopf ended up with seven versions of an instructional program designed to teach a certain body of content with a knowledge of the effectiveness of each program as measured by scores on a single criterion instrument. Rothkopf then went to a group of experienced teachers and showed them the criterion test and asked them to rank the various programs, according to the program ability to teach the students the information required in the test. He found a negative correlation of .75 between the teachers' ratings of the effectiveness of the material and the actual demonstrated effectiveness of the materials as measured by student responses on the criterion test. This means, quite likely, that materials which appeal to the sophisticated scholar may be inappropriate for the relatively naive learner. *I think this suggests that subjective appeal of materials to the informed scholar may have some limitations as a method for determining the most effective instructional materials for the relatively uninformed, naive learner.*

-Edling-

... Instruction is, after all, merely the process of facilitating learning. And you can't really understand instruction if you don't study learning. And you really should measure instruction on the extent to which learning occurs. I don't see any other way. Effective instruction accomplishes learning and ineffective instruction doesn't.

-Canfield-

... Instructional materials that do not produce desired learning effects are modified on the basis of actual student performance until they are demonstrated effective and this is very different from the present information sampling, essay testing, grading and failing concept. The normal distribution idea is appropriate for measuring various types of aptitudes and other characteristics including time to learn, but it is really not appropriate in determining whether or not a person can, or cannot, demonstrate a specific behavior.

-Edling-

ON DEVELOPING AND USING OBJECTIVES

... To be efficient about teaching, we must know what elements comprise whatever it is we want to teach the learner. It is inefficient and boring to the learner to teach him those things he already knows, but it is unreasonable to expect him to perform tasks he has had no previous opportunity to learn.

-Edling-

... It is not possible to have everything down, especially when you first start out, so I instituted a little system of planned change. At the end of every quarter, I give my students a little questionnaire asking, "What have you learned here?" "What materials have you used?" I want to know what they used already, a lot of students are teaching, while I am teaching them. Another question asked is, "What have you learned here that I have not stated in my objectives?" Every once in awhile they come up with something and they are quite frank and good about it, and they tell me.

-Yelon-

... Be general, and once you have written the goals, in general or specific terms, if you want to and then break them down finer into these kinds of little sub-objectives and try to write them in Magerian terms.

-Canfield-

... How far down down do you have to go with these objectives before you are specific enough? I think this is the place to break in the newest Magerism, which he calls the "Hey Dad Test". Imagine one of your students going home to his family and saying to his Dad, "Hey Dad, let me show you how I can ---." Depending on the father's reaction, you have an idea on how good your objective is. "Hey Dad, let me show you how I can demonstrate my growing awareness of myself." The father says, "What?" This communicates very little about what the student would actually be doing and of course you are old hands at this point. You are well aware of that one. How about the other end - "Hey dad, let me show you how I can read the numbers on the slide rule." So what? What for? Who cares? This is what Mager is trying to get at. You want to hit the middle area here. Where an objective makes sense, it specifies some sort of total meaningful performance.

-Markle-

... It doesn't mean that every little sub-objective of a course, or unit of study has to have a rationale. But, certainly when you start writing purposes, you have to consider what they mean to the learner and why he sould be concerned with them.

-Canfield-

... A few of us began to write long lists of these objectives which were really overwhelming. We put these in triple spaced and then used a consultant from Nova University who did not have any background on nursing and he worked through them, and read them to see if he could understand them in behavioral terms. We got them written in behavioral terms, and then we used one more faculty member to check them for content. You should not use more than one faculty member to write them originally, and then use another one to check them over. If you use three or four staff members, you are going to get all these different ideas and it would get longer and longer and so it would get overwhelming. We thought it would be good to use one faculty member to write them and another one to check them.

-Roe-

... I think it would be worthwhile to talk about designing objectives for different levels of activities. For example, in preparing the objectives for students, you want to stay clear of the technical terms that you are going to give the students. Then there are those objectives for the design of instructional materials which must be extremely specific. I think that for students, it is very nice to start out with some sort of summary, in other words, you don't try to get too specific.

-Markle-

... You need to write these in learner's terms, not teacher's terms, so that the vocabulary level, the words, and the implications of the objective are learner's terms, not teacher's. In fact, you have to put a rationale in them. A rationale is just a statement of why he should learn that - it's a motivational statement.

-Canfield-

... And I think this is the major and very relevant criticism of this over-emphasis put on behavioral objectives - getting right down to the picky detail which specifies almost a one-to-one relationship with the criterion test item. If you start with the high level objectives, even the non-behavioral, and try to get a general picture of what you are trying to do with the student, as what you would like them to be like, then you are less liable to leave out something that is really important. This goes as much for the affective or appreciation type skills as for some of the higher level cognitive learning. As you start looking at what your students should be doing, such as evaluating or synthesizing or problem solving, you may find that some of your favorite historical lectures and anecdotes on the subject matter don't fit. This is one of the real dangers in looking at what you had done in the past or at the textbook to get your objectives, because some of these things may have no relevance whatsoever to where you are going.

-Markle-

... We put the behavioral objectives on cards (the typewritten part) and numbered them in pencil so we can change the numbers around based on the objective sequence. We then went to the books that we had available, either the text or the reference materials, and began to put down page numbers that would apply to this objective. I used a shoe box with this one course with about one-hundred objectives, and these were then broken down into sub-units.

-Roe-

... At the very beginning, I have the entrance skill test in order to see where to start them. If a student walks in and would like to take the course, but thinks he knows it, I ask what courses he had taken, and then if he takes the exam and passes it, he earns three credits. The student does not fail, as far as I'm concerned. If the student could not demonstrate these objectives at the end, it is my fault. I'm paid to get him from wherever he is - when he walks into that class to complete the objectives when he finishes. If he does not, he can take that course over and whatever mark he gets that second time will supersede the grade he got the first time.

-Yelon-

... There is something that I would like to see stated in these objectives which does not turn up in the standard Mager or the standard Pophem objectives. The fourth aspect here of "When is an objective a good objective" is: if what you intend the student to do is to apply something or generalize to new examples, or transfer the behavior to new situations, you really ought to specify this in the objective. In other words, given a completely new problem which the student has never seen before, but which shares certain properties with the teaching materials, he will do thus and so. Too many of the objectives that I have seen seem to imply that you drum these problems into him and the student just repeats back, does again those he can handle.

-Markle-

... Certainly, there will be some areas where we won't be able to specify in behavioral terms everything the student should do, and that's all you do in that class. There are some things that are difficult to get to and we are going to be confronted with those for a long, long time. And just because we can't objectively evaluate something, doesn't mean that it should not be in the curriculum.

-Faris-

... In Social Sciences and Humanities, value judgements are most important. For example, one instructor might like a good writing style to be very short and concise, while the other instructor likes long and complex sentences. Arbitrary selection of any particular point along those styles means that instructors in different classes are making different value judgements. Neither teacher swaps tests with the other one - they have no common goals. In actuality, a good common goal of education would bring students to appreciate the possibilities along the whole range here, both short and concise, and complex sentences. So any predetermined goals like this that are made on the basis of one person's value judgment and not checked out with others are likely to result in trivial objectives.

-Markle-

... How do I know I am doing good in a long run? I will be "messing up" a lot of students if I don't, I now have a list of addresses of my students in the fall I will send out a questionnaire to ask what they are using, what is junk, and what do they remember best. Some people don't want to fool with objectives because they seem too simple, it's tough to do, or they will be accountable, or (this is the biggest one of all) - tradition.

-Yelon-

ON CONCEPT AND TASK ANALYSIS IN LEARNING

... Animals, children, and even college students tend to give the same response to something new because it resembles an earlier example. This is one of the basic processes involved in really understanding a concept, that is, the generalization to a new example, one that the student has never seen before. Let me make it absolutely clear, because it is central to the teaching and testing of concepts that, generalization by definition involves a new instance or a member of a class that the learner has never encountered before.

-Markle-

... What is the entry behavior necessary for a student to perform at that level and what could he be able to do once he has gone through this sequence? This is quite different from a lot of other ways of developing instruction that you have seen. So we at Indiana have been working with the idea is that you need to analyze sequences and tasks involved in a particular behavior and this will determine the entry and terminal behavior.

-Faris-

... One of the most important things about concept teaching is to make sure that students have the entry skills (prerequisites). In other words, before you teach the concept of "frasm", be sure the student has the other concepts that are imbedded right in the definition.

-Yelon-

... To generalize is to identify a previously unmet example as a member of the same group. The other basic process in the formation of concepts is discrimination, the ability to tell the difference between the examples of a concept and some rather similar things that are not examples.

-Markle-

... When we made the objectives, we tried to orient them towards the"principles". While there may be some variations in a given situation, where you might do it slightly different, you still would go along with the principles of sterile technique, for example. You might use various things for it, but the principle of sterile technique is the same.

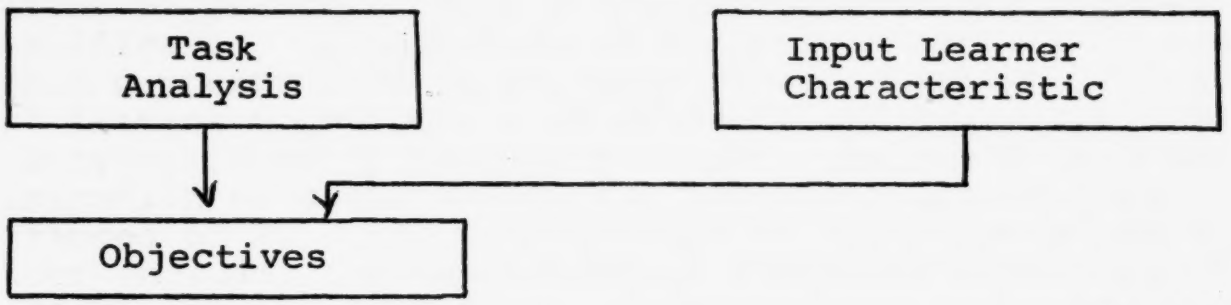
-Roe-

ON CONCEPT AND TASK ANALYSIS IN LEARNING - *continued*

... Too many of our students can talk a good game and wouldn't recognize an instance of what they were talking about if it came up and bit them. I have had this happen so many times in class that it really is not funny--you mention an example that you consider a part of a concept and the student just doesn't see it. It never occurred to the student that this is what that word meant, although he can inevitably define the word in the technical terms.

-Markle-

... If you were going to train a typist for employment as a clerk-typist, one of the things I suggest you do is what it is clerk-typists do. Then, if you are going to train them to do that, you might ask some people, or you might go watch some people, or you might interview some people, and that is called, "Task Analysis". The other thing that you have to look at if you take this kind of approach is, "What are the input learner characteristics?"



-Canfield-

... The eventual goal of instruction is generalized behavior exhibited by the student in the absence of assistance and in a voluntary context. In effect, an analysis skill is taught to the student which the student will voluntarily employ when opportunities to do so present themselves. In some cases, the student may carry his generalized ability into new areas which have not been previously analyzed by any subject matter expert, in other words, to the growing edges of the discipline. He goes far beyond what he has been taught.

-Markle-

... When you begin to analyze and sequence tasks, the question that needs to be asked is, "What are the steps he goes through?" This is a pretty difficult question. Even in mathematics with linear equations, they had about three small units - three concepts for generalizations that they dealt with, and were presented with A,B,C. Math is a very systematic body of information. When they began to analyze what they were doing, and what students should be able to do, what they should know to perform the various tasks, this changed in sequence from A,B,C, to A,C,B, so actually the content in C needed to be taught before B. But they had been teaching for the past ten years A,B,C, and they are convinced now that the sequence is incorrect.

-Faris-

ON CONCEPT AND TASK ANALYSIS IN LEARNING - *continued*

... I will tell the student that I hold them responsible for recognizing the difference between saving and investment, in other words, sorting the examples into two piles. Now in order to develop learning materials, from this particular objective, I would have to go into much greater detail. There might be a series of eight or ten statements that I would make about the difference between saving and investment and then I would have to generate examples and non-examples of each of these and use these in a teaching sequence. There may be five or six attributes that are differences between saving and investment. This is just one example, and your learning analysis would have to identify all five of these, whereas to the student, you would be working at a different level of specificity. You would only be saying to the student, "When given examples, you sort them in two piles - savings and investments."

-Tiemann-

... This brings us to the situation of what I might call "Appreciation of Skills". When a student voluntarily engages in identification of instances of X, we refer to such a conditional demonstration as evidence of appreciation. If a student listens to another kind of music and cries out his ability to identify the basic themes, now there is a discrimination of basic themes vs. non-basic themes within the instances of X. So a definition of appreciation in this matter includes the conditions of voluntary demonstration and evidence of generalization. This analysis model has employed the action verb "identify". The format of analysis that I am trying to describe here, permits the substitution of all kinds of, what Mager might call, "action verbs" - to recognize, to record, transcribe, etc.

-Markle-

... I, personally, have heard very experienced teachers say, after completing a course on the techniques of programmed instruction, "I realize now that for thirty years I have been literally flooding my students with words, talking them into a stupor with words, not only that they didn't want, but that they didn't need in order to learn what I really wanted them to learn."

-Edling-

... This is the exciting thing about instruction if it is built this way - you notice after the first couple of tryouts in instruction, the student is talking more intelligently than they ever had talked before. This is why we emphasize this big overall objective - "really understanding".

-Markle-

STUDENT REACTIONS AND ON EVALUATING STUDENT PERFORMANCE

... I think that grading is the biggest bunch of nonsense. If I give a student a "B", can you tell me what he can do? If you saw his transcript and he got a "B" can you tell me? I couldn't tell you which part was missing, which part he had, and no idea what he could do and what he couldn't do.

-Yelon-

... The student who gets less than 80 per cent is actually failing when they don't reach the prescribed level of performance. So if they goofed off a little bit perhaps, they want to catch up to pass, they then would take the exam again. We don't let them take a make-up exam just to improve their grade. If they make a 90 or 95, we don't go around again, this seems kind of pointless, rather only if they get less than 80 per cent. If a student does get less than 80 per cent, you begin to look at the student and wonder why. And some of them we would begin to counsel them out. Hopefully, you would begin to counsel them out before the second term. But still these things happen, and you think well maybe this student is real slow and will come on real strong and then they don't. Where are you going to chop? We have those.

-Roe-

... When we talk about tests, too frequently we think in terms of a paper and pencil test. There are many other possibilities, depending upon the realm of learning we are involved with. For a criterion test, if you specify what you want a learner to do, then in some way you want to evaluate to see whether you have achieved that or not.

-Faris-

... When we give them a unit exam, we also give them an evaluation sheet - "What did you like about the course? What didn't you like? What specifically?" List three things that you specifically could not understand. If you find a specific question that does not go on with an objective, jot it down and we will look at it. We didn't have the old bell curve anymore and they moved right up to the top of it, the cut off point, was just slightly lower than middle and they are moving up. The grades tend to be slightly higher because a passing grade was set at eighty, but we required them to have a composite grade of the clinical lab, the unit test, and written ones.

-Roe-

... A test really measures what you hope the learner will get out of the course. Two or three faculty members who started out with their test on a unit, when backed up, found out that the test information wasn't what they wanted the students to learn. If you need to develop goals, you need to specify as best you can what you expect the student to be able to do, and then develop some kind of evaluation system for a test.

-Faris-

STUDENT REACTIONS AND ON EVALUATING STUDENT PERFORMANCE - *continued*

... On the tests, we looked at each objective, and then for each objective, we wrote just three questions for it - one for the pre-test, one for the self-test, and one for the post-test. The pre-test and post-test were supposed to be as close to being identical in requiring an answer you can get.

-Roe-

... How does a student react in terms of his behavior in a course with objectives? I think the most refreshing teaching experience that I have ever been through is to give the students objectives which specify pretty clearly, but not on the highly technical level, precisely on what I am going to test them. One of the things I do here is to make sure that I give them a small test or examination very early in the semester. I have found out the average college student doesn't believe a word of it. They never had a professor who has told them how they were going to be tested and not pulled any real clinkers on them in the exam.

-Markle-

... We would say, "Just learn your objectives and you will have it." But they couldn't believe it because they never had it, it was never this honest before. So the students that came into it, just couldn't believe the change and they did beautiful. They had been through it originally - they resisted it least because they were highly motivated to get through this time along with it. They could see the direction. They had had parts of this before but all of them wanted to attend all the classes because of their motivation.

-Roe-

... Ninety per cent is set because my judgement and my test are not perfect and there were some poor items on the test that were hard to figure out. How do I do that with the grades? The top percentages are "A's" and that is what it means for my course. I will admit when I put it down on the transcript, it loses everything.

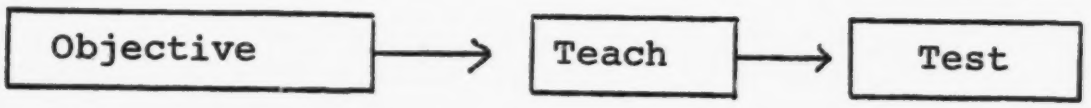
-Yelon-

... They were pretty successful on the test, but there were some who needed to retake it. We worked it out that required an 80 per cent passing grade because we weren't sure that our testing was that good, and we wanted to be sure that we had a high enough level so that the student was safe in theoretical knowledge. If they failed it (got less than 80 per cent) we arranged test questions that were tested on the item analysis and the IBM machine so it was according to sub unit 1 and 2 of the unit, but the rest of it was okay. She would then go back and study that part and take the test again, but this was a subjective test taken about one week later. The grading was then done between the student and the instructor as to whether it was passing or failing. This system isn't fool proof, but at least it gave us a better idea than we had before as to how well the student was doing.

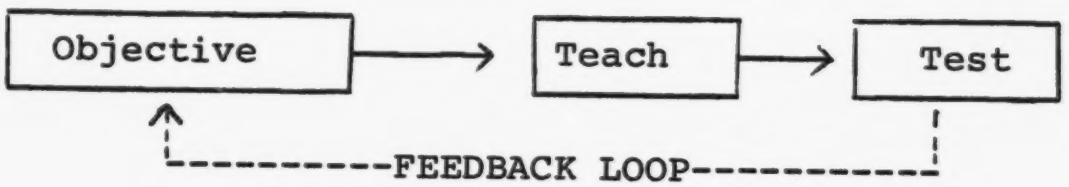
-Roe-

STUDENT REACTIONS AND
ON EVALUATING STUDENT PERFORMANCE - *continued*

... It has only been recently that I kind of came to the conclusion that if I were testing, I must have had some objectives. So, let's extend the structure and say what is really that we are doing.



We have some objectives, so then we engage in some kind of teaching activities and then we test people. And when we test, we ought to use that test information to assess the affectiveness of which we taught, and we ought to also look at the test information in terms of the extent to which it may be reflects and confirms our objectives. Now, this is a very simple and open system. Then let's just call this a "closed loop", kind of relationship where you set about to accomplish something and it says, "What I'm going to do."



Now, unfortunately, in much of educational practice, the feedback loop is largely missing. And then we test, we stamp people with grades and go into another teach cycle - then there is not a lot of real assessment of the extent to which we accomplish what we set out to accomplish. So, I'd say that any testing program reflects objectives.

-Canfield-

ON TEACHER INVOLVEMENT, WORK EFFORT AND EFFECT

... You don't see the payoff immediately and that is what hurts. It took me a long time to see the actual payoff, but I also know and my chairmen know, and my colleagues know that Yelon can teach. He can demonstrate it, he can actually show you that he has taught something because I have entry tests (the tests they take the first day) showing how much they knew then, and also I have their final exams which I keep on record. There is a difference and I can show it to anybody.

-Yelon-

... I don't think that people, in most cases, are going to donate great energies to tasks that are not in some way related to the reward system built into the institution. Now, if community colleges are primarily concerned with instruction, I think there needs to be a lot of work done in attempting to assess, evaluate, or distinguish between the good teachers and the bad teacher. What characterizes a good teacher? If we can get to the point that we can state behavioral objectives that after you start out with a course and hear the objectives - when it is over with and 90 per cent of the students reached the objective and the objectives are worthy ones, then I would assume that you have done an effective job of teaching.

-Faris-

... Teachers are afraid to take this first step. For one thing, it takes time and energy to write your objectives and trying to get them down pat. I am still doing it now for three to four years because when I write an objective, it takes me an hour to say exactly what the students are to do. Another thing is that you are made accountable. My colleague next door can walk over and take a look at my students and say, "You didn't make it, how come?" And all of a sudden I am accountable. Suddenly, you find out whether you are or are not teaching something, and you are accountable - and it is scary. I'm always embarrassed when a guy doesn't make it.

-Yelon-

... Small group conferences were a big part of this kind of learning. We encouraged them to do some reading, get some foundation, and then break up into small groups and work on specific objectives. A pre-conference in the half-hour orientation used before the student goes into the hospital. The post-conference is an hour session after they have had the practice in the hospital and is composed of sharing .. the student has a problem and they can help out together. The instructor tries to take a limited role in the post-conference because this is an area that students work out together in discussion groups which are quite broad and can break down into more specific areas. The students were quite honest in their problems.

-Roe-

ON TEACHER INVOLVEMENT, WORK EFFORT AND EFFECT - *continued*

... Time is one of the biggest draw backs and that is why people would not bother preparing materials because it does take a good deal of time and energy. It took me about thirty working days to write the objectives, analyze them, break them down, and pull out the contents to teach.

-Yelon-

... There are two areas that were really time consuming, one was producing materials, and the other was trying to get faculty to specify what they really wanted to do. As another example, we had a woman in micro-biology which took 500 to 600 hours. Then we finished that unit and started a second unit where we spent 200 hours, but we only spent 20 hours with her and achieved the same thing. The first time she never heard about trying to state an objective, but the second time around, going through this process, it speeds up. The thing that does not speed up is - producing materials, that is still very time consuming.

-Faris-

... Most of the new knowledge is resting securely on library shelves in hard-to-read research reports and is not disturbing existing teaching methods. But to actually improve instruction, i.e., to change the learning experience in such a way that students are expedited in their search for knowledge and new competencies, requires a much larger effort than thought previously. We have seriously under estimated the size of the task.

-Edling-

... Was it worth it? Well, here is what I can do that most of my colleagues cannot do. First, if I were teaching tomorrow, I could walk in there and know exactly what I am going to say and know exactly what I expect the students to do by the end of that hour. I'm ready for it. Next, I can constantly take a look at my course itself, in other words, not only can I evaluate the students, but I have time to look at my teaching.

-Yelon-

ON THE CHANGING ROLE OF THE INSTRUCTOR

... We have never found a teacher (including ourselves) who has ever decided specifically, for each learner, what the learner ought to be able to do, how well he ought to be able to do it, and the conditions under which his learning ought to be evaluated, in order that the teacher knows when to stop teaching.

-Edling-

... In this project, the most important member is the faculty member, but also in addition were graphics people, motion picture people, psychologists, measurement people, and then instructional development staff. We attempted to get a faculty member to analyze the learner first, because what we have here is learner oriented; it is not content oriented; it is not teacher oriented; it is learner oriented! If you are going to analyze your own instructional practices, there is a place to begin with some knowledge of the learner that you've been working with.

-Faris-

... I think we must consider the possibility that:

1. The teacher's role as an information giver must be redefined.

2. We can only judge the efficacy of instructional materials when they have been empirically tested.

3. Learners differ in ways we have hardly considered, and greater provisions must be made for learner differences.

4. Totally new learning strategies must be developed to achieve varying kinds of learning outcomes.

-Edling-

... There is another thing developing at Indiana University, closely related to teaching, I guess, instead of publish or perish, it is now, "package or pack". The idea is, is that people are going to have to work for the development of packages of material. This might be a book, it might be a film, it might be most anything. There is really a push right now on our own campus for faculty members to work on the development of materials for teaching purposes and thus, "package or pack" concepts have now appeared on our own campus.

-Faris-

ON THE CHANGING ROLE OF THE INSTRUCTOR - *continued*

... The other teachers are writing packages for the next course. This is not really fair to students, this up and down, but we are trying to do the best way we can. You shift the burden to the student in this kind of work and they have to know themselves and how they learn best, what they need to know, and how to go at it. We are going to pull in some of the other instructors from other subject areas in the college. We are pulling in a staff member from the horticulture program to give a lecture on plants in the motivational lecture for medications. This will help get everybody involved in it. This won't be a required objective as such, but he gives a terrific talk on this. Then our teachers wonder - "Where does this leave us?" Some of them want to lecture and some of them give a good lecture. Some of us don't give a good lecture or a lot of us just give one just once in awhile, so we try to work it around in this area so those who are strong in certain areas, give the motivational lecture and work this area. Some of us are better in small groups, and we work them that way but we all have to have the individual conference and it does not get rid of the teacher, it gives the teacher more time and they maybe can do some of the planning and doing work with the media.

-Roe-

... I would summarize my activities by saying that you should:

1. Analyze the real world tasks.
2. Set the objectives
3. Write the final exams
4. Analyze each objective
5. Extract concepts, principles, and skills
6. Define concepts, principles, and skills
7. Select examples for the principles
8. Select examples for the skills
9. Select the appropriate media

-Yelon-

... I think the idea is that here you have given them the "LEGs" (Learning Experience Guides) they can learn it as well as they want to, they don't have to come to these stupid classes if they don't want to come, but they need to understand that you want them to learn it so that they can use it for whatever purpose it is or whatever course it is, and how they do it - you don't care. And you don't say that no matter how bright they are, or how much experience they have, that they have to sit rigidly and do what everybody else does for four weeks.

-Roe-

... Once the new systems are available, then almost entirely new roles are opened for professors. They are no longer required to regurgitate information for the nth time. They can confront students who are not naive on a subject and can test their competence at the highest and most meaningful level of interaction, and they can do creative rather than repetitive work.

-Edling-

PART III

SUMMER CURRICULUM DEVELOPMENT PROJECT: A CRITIQUE

The following represents the consensus of the participant group as a whole regarding an overall appraisal of the projects accomplishments.

A. Consultants

1. Effectiveness - The six consultants made a major contribution to the seminar by providing the faculty with a variety of approaches to learner-oriented instruction and curriculum.

Such topics involved the clarification of educational objectives, development of unit goals in terms of student entry and terminal behavior, analysis and sequencing of tasks to effect maximum learning, the planning and development of teaching strategies, the use and preparation of media materials, etc. The most stimulating and helpful consultants were those whose presentation included practical and usable ideas as well as a theoretical overview. Programmed materials developed and used in their respective institutions were provided by Dr. Steve Yelon, Dr. Faris, Mrs. Ann Roe, and Dr. Jack Edling. These materials proved to be one of the best means of illustrating the importance of a behavioral approach in curriculum development. Less effective, not only in terms of materials presented but in the presentation itself, were those consultants who in a needless amount of lecturing, duplicated material already presented and one who, by his aggressive attitude, created a decidedly negative atmosphere in one of the earlier sessions. On the whole, however, the consultants were not only quite effective in their presentations but more than willing to utilize their minimal time in aiding each member of the staff with his individual project.

2. Use and Sequencing of Consultants - In the light of their stature and the demand for their time, we realize the difficulty inherent in scheduling these consultants, however, it was generally felt that a revised sequence of consultant scheduling would have proved more effective.

For example, the seminar might well have begun with Harper's Dr. Harvey, Dean of student Affairs and his fine presentation of the student profile, with Dr. Faris following since he provided a general scheme by which behavioral objectives were introduced into the curriculum. From that point, we would have gone to the specialists such as Dr. Yelon and Mrs. Roe and terminted with a generalist like Dr. Edling. It would be better to have them attend for two full days, possibly with the mornings devoted to the group presentations and the afternoons devoted to individual projects.

B. Length and Time Allotment of Workshop

1. The six weeks period provided was adequate and would serve as well for a similar project in the future.

2. The objectives in the seminar proposal were far too ambitious for the summer.

   A more realistic approach was Dr. Faris' program at Indiana University, in which the goal for a two semester, three hour a week faculty course was one unit of one course successfully restated in behavioral terms.

C. Workshop Strengths

1. One of the most important aspects was the participants' realization of the diverse complexity of instruction based on a behavioral objectives approach.

   The very label "behavioral objectives" is limiting, unless one is aware that it does not only imply the restating of a course in behavioral terms, but encompasses the overall improvement of instruction through a development of instructional materials, the preparation and use of tests to measure all steps of learning, and a self evaluation of one's teaching methods, as well as numerous other related activities.

2. The diversity of opinions represented by the guest consultants was extremely useful in that each of the participants was able to select and choose those techniques and strategies most compatible with his discipline and skills.

3. Another important aspect was the realization by the staff of the time and care which must go into each step in this kind of curriculum development.

   The illustrations provided by the consultants in this regard were most interesting. At Indiana University, for example, one unit (4 class periods) of a semester course in totalitarianism required 700 man hours. This unit included materials such as student tests and pre-tests, handouts and three video tapes of four minutes each. The exemplary program in dental anatomy at Oregon State described by Dr. Edling took four years, two faculty members and approximately $200,000 (of Federal Funds) to develop. In addition, the textual materials were expanded from three to seven volumes; however, this allowed the student to complete what had formerly been a one year course in a semester of independent study.

D. <u>Workshop Weaknesses</u>

1. More careful planning was needed to correlate between the participants knowledge or stage of development and the content of the speakers' presentations.

   In some instances it was presumed that the participants were more sophisticated, in terms of the behavioral approach, than they, in fact, were. This led to confusion - in some instances, on the part of both faculty and speakers since the latter expected responses which the faculty simply were unqualified, as yet, to give. It was also interesting that almost without exception the consultants tended to use the lecture method in their presentations while constantly criticizing this method of instruction as extremely weak and limited.

2. A greater number of consultants in area specialties such as communication, social science, language, etc. would have improved the seminar.

   We realize, however, that people in these disciplines might not be available; nonetheless, a move in this direction would be beneficial.

3. Lastly, the examples used by almost every consultant dealt exclusively with vocationally or performance

oriented programs, further emphasizing the lack of specific models from the humanities.

E. Comments and Recommendations

The following are additional observations which came out of this summer's experience and which, in the group's view, might well apply to any future projects of a similar nature.

1. While the inclusion of new teachers in the seminar was deemed excellent, it was also felt that at least one participant in each discipline represented should have at least one year teaching experience in the area of his individual project.

2. Since the Dean of Instruction is vitally concerned with curriculum it would be advantageous for him and the Division Chairman when possible to be on hand at each session involving a consultant presentation.

3. A number of consultants referred to various funding sources. The participants felt these sources should be explored (if that has not already been done) with a view toward relieving the college of the project's expense - if, in fact, some other source is available.

4. The consensus regarding the faculty stipend was that it should be an amount figured on a pro-rated basis which would reflect the individuals salary and rank, rather than a set amount as was the case this summer.

5. A recurrent theme present in the project was the failure, at most institutions, to arrange a follow up program wherein the participant could have periodic meetings during the school year.

   All of the participants agreed that some sort of follow up, including periodic meetings of the group - perhaps at luncheon or dinner - would be of great value in carrying out the aims of the initial project.

F. Conclusion

We would like to express our gratitude to the Administration and the Board for making such a project available this summer, and to George Voegel for his help and guidance in conducting it. While there was considerable skepticism regarding a behavioral approach to curriculum at the beginning of the program, by its conclusion there was no question but that the six weeks had been a rewarding and fruitful experience; the benefits of which will continue in terms of changed teaching strategies and a willingness to proceed with controlled experimentation in improving curriculum.

Martin Ryan, Participant
and Group Spokesman

August 19, 1968

PART IV

WORKSHOP FOLLOW-UP ACTIVITIES

Acting upon the participants' suggestion for some workshop follow-up activities, a project development status form was distributed to the participants requesting the following information:

Course name and number.
Amount of course to be designated by objectives.
Amount of concept and task analysis to be developed.
Evaluation techniques for student performance level of satisfactory student performance.
Other evaluation techniques that might be used.
Future developments to be worked on.

The first follow-up session was held in October, 1968 with a majority of the workshop participants in attendance. Each participant was afforded the opportunity for a "show and tell" of their progress and problems. The main theme of their status report at this point was that little feedback was available due to the fact that most of them were still developing their objectives, sequencing the instructional sessions, and constructing exams. One generalization that seems apparent with the group was an increased awareness and concern over developing improved mid-semester exams for their courses as a result of the emphasis on this by the workshop consultants.

The next follow-up session was held early in February at which time, a number of the participants had some encouraging feedback from their effort in the first semester. Those who had shared their objectives with the student and oriented the exams towards correlating with the objectives found some in-

creased achievement and less student anxiety about the exams. However, a number of participants were still experiencing developmental difficulties due in part to a lack of faith in this approach to instruction. Their outward expression of this was phrased as "difficult to do in my subject discipline" or "this approach seems to stiffle creative and imaginative teaching." They were appreciative of the fact that others were experiencing difficulties and that they were not alone in this venture.

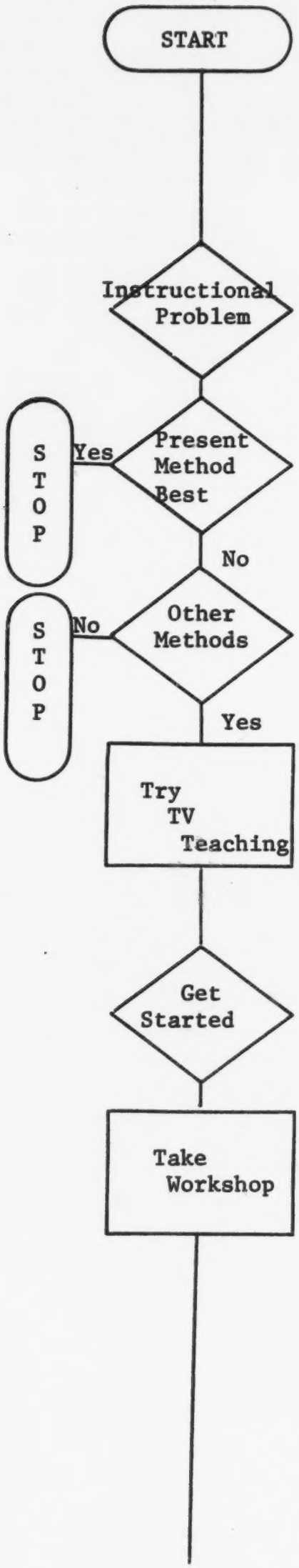
In June a very brief resume was undertaken with the group, largely in the form of rough draft outlines of their progress and feedback from students. The move from the old temporary campus site to the new campus still being completed early in September precluded any further follow-up with the participants. As the instructional spaces became complete and the supporting instructional services became available (which will take quantum jumps this spring with the installation of television distribution and studio, A-T carrels, and remote media functions in the lecture-demo centers) the participants began to implement some of their instructional techniques concepts.

The following section of this UPDATE #1 report reflects the various activities and outcomes of the participant efforts. A number of the comments made above are explained in greater detail by the participants themselves in their outlined reports. Also contained in this next section are excerpts and examples of the curriculum guideline materials developed by the participants.

PART FIVE

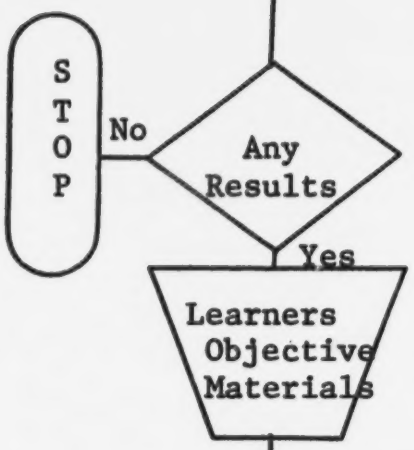
PARTICIPANT INSTRUCTIONAL DEVELOPMENT
COMMENTARY AND EXAMPLE MATERIALS

Accounting 101



The accounting instructional development (A.I.D.) process began in the spring of 1968 when the problems of instructing a variety of students with the present techniques were defined. The question became, "Is the present teaching method best?" I felt that the present method was not as effective as it might be and looked for courses or workshops that might provide some new ideas or techniques to improve the instruction.

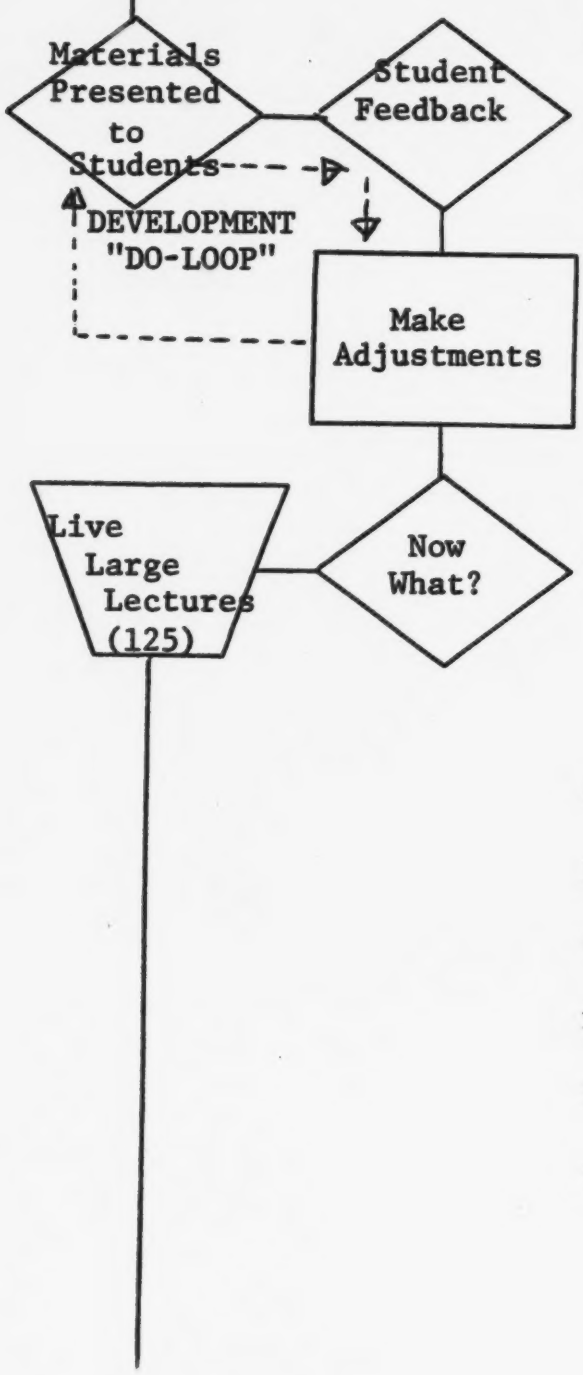
I registered for a summer workshop on, "Teaching Accounting in the Junior College," offered by Northern Illinois University with Board approval for the payment of special course fees. This was prior to the development and announcement of Harper's own summer curriculum workshop. One of the major emphasis of this particular workshop was the application of the television medium to teaching accounting and this turned my interest towards the use of the videotape recorder in instruction.



Accounting 101 - *continued*

The reorganization of the content and techniques was begun in the fall of 1968. A structure, based roughly on information passed along from Harper's workshop, was outlined in which to begin the reorganization. The equipment and personnel on the first accounting unit developed, consisted of one small TV camera, a VTR, one student aide acting as cameraman, "home-made" visuals, and the learning resources man acting as all around TV "studio" man. This taping was done in a back room of the temporary library. This method of teaching accounting is time consuming in that a fifteen minute videotape involved about 160 hrs of planning, writing, making transparencies, revising, and finally recording the presentation.

Before setting the objectives, the audience characteristic or potential learners in accounting were reviewed. After these were structured, the unit teaching strategy was determined which included videotapes, verbal explanations and examples hand-out materials for student work sheets and responses, lectures, and discussion groups.



Accounting 101 - *continued*

The presentation pattern for this unit generally was as follows:

a) define general terms to be used

b) give examples using the new materials

c) solve example problems by applying the principles learned in the unit

In each of the accounting units, the learners must be able to complete correctly, and in accord with the accounting principles developed, at least 70% of the questions or problems presented.

In the spring of 1969, after getting the units organized, student feedback on the classroom presentations brought about changes based on such suggestions as:

have visuals and hand-outs on the new terms

provide additional general ledger accounts for the unit

slow down the rate of presentation

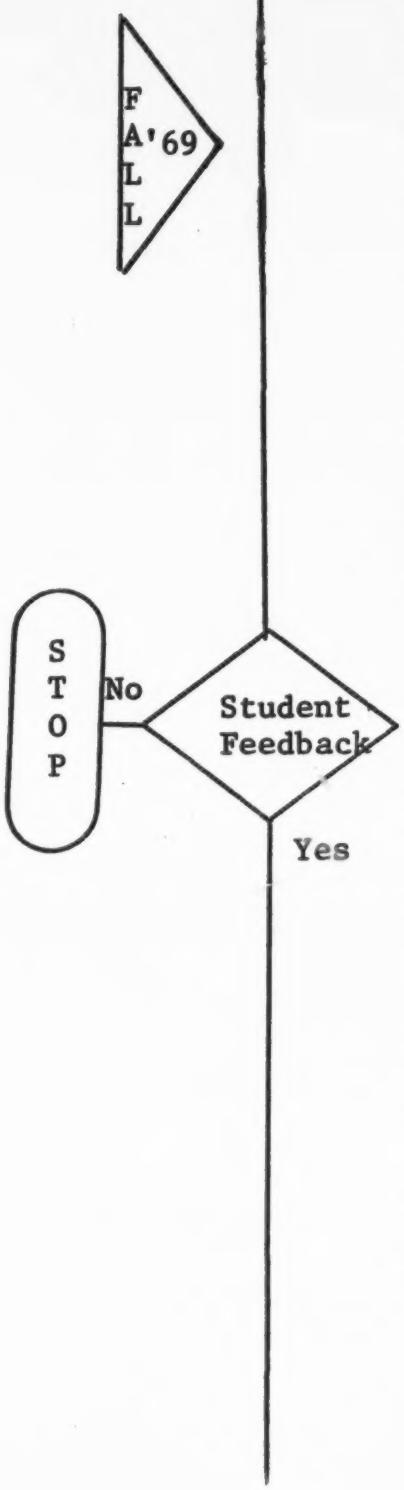
drop the tapes

As a result of this student feedback, a phase I labeled the "development do loop", occurred. This was a period of revision of my techniques and materials. A great asset in this process was the use of the portable tape cassette recorders in class to record

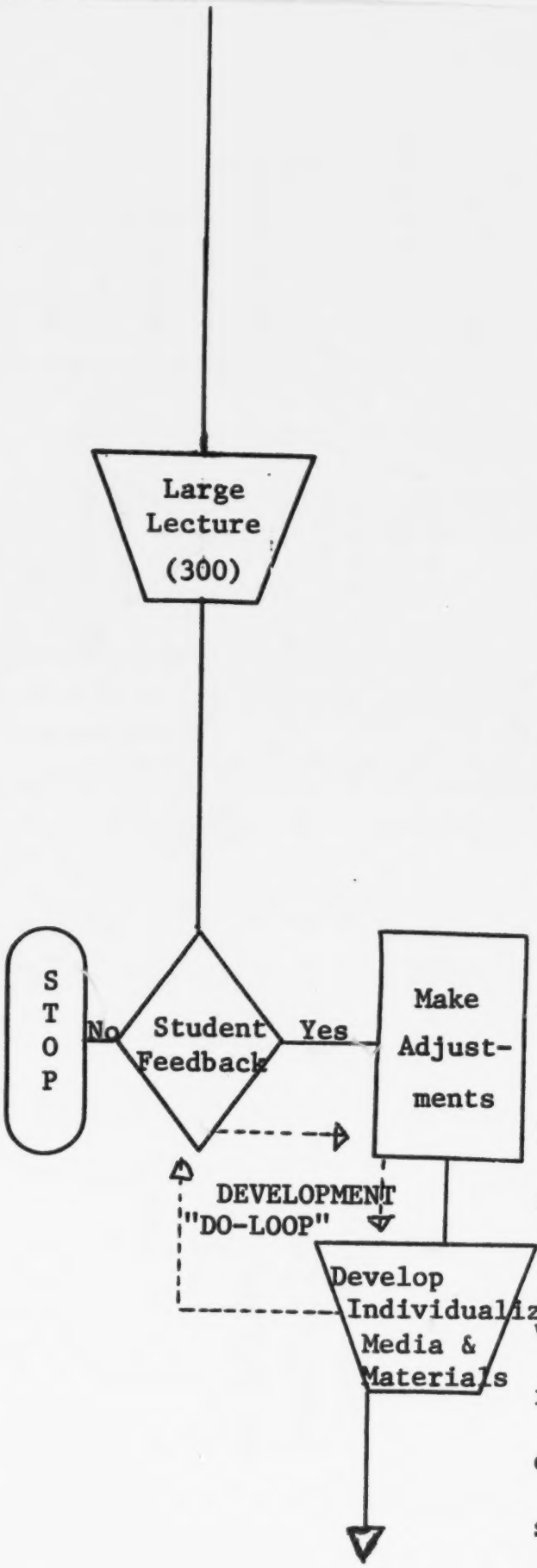
Accounting 101 - *continued*

the pertinent parts of the presentation in order to play back later to pick up ideas for instructional change.

After moving on campus in the fall of 1969, the revised materials and so forth were used in the new 125 seat lecture-demo center, even though it was not fully equipped with media devices. The scheduling of students in the Accounting 101 actually was set up to have a once a week "lecture" section in the lecture-demo center with a discussion and quiz section meeting twice a week. A student would register for one lecture section and the discussion sections. There were three groups meeting on Monday, Wednesday, and Friday for a total of about 400 students.



The revised materials were presented at the large lecture sessions and more student feedback revealed some more suggestions One of their suggestions was to move all the lecture sessions to Friday because some of the students were having the lecture on the basic principles after their discussion classes. By shifting all the lectures to Friday, this problem was eliminated. There



Accounting 101 - *continued*

is now one session given on Friday in the 300 seat lecture-demo center for all Accounting 101 students.

If you would have suggested at this time last year that I would be lecturing to 300 students, I would have said that Accounting principles cannot be taught in large lecture groups. The students' suggestions were taken and now the student reaction has been favorable to this change.

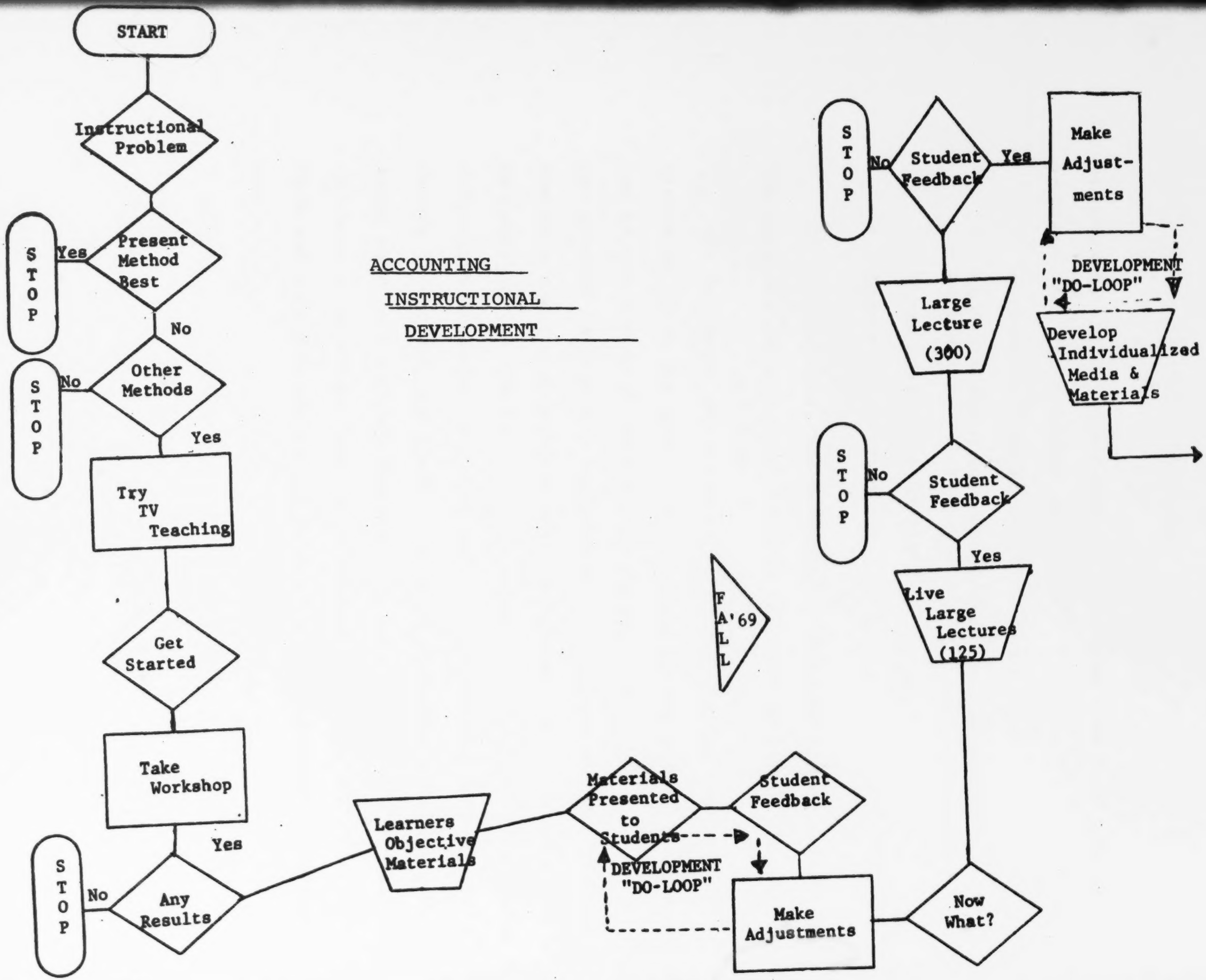
The future plans for instructional development in Accounting include structuring of Accounting 102. The audience has been analyzed, unit goals have been clearly stated, and a team teaching approach in the lecture-demo center used. Three instructors will be involved and each instructor will be responsible for the presentation of a segmen of the course material in addition to discus sion and quiz sessions. This revised proces with new materials will be implemented in February 1971.

Also under development is a cassette tape and slide presentation on units from Accounting 101. When completed, these materials will be made available at the Learning Resource Center. Each unit will

ACCOUNTING

INSTRUCTIONAL

DEVELOPMENT



be complete within itself and also includes hand-outs and work problems, all for possible use by:

1. current account student for review
2. students who have completed the course and want to review the unit materials
3. other business students
4. Accounting 99 students

In the meantime, the development "do-loop" concept for the updating current procedures in 101 will continue.

The following chart depicts the data display from a questionnaire given the accounting students at the end of the semester in the Spring of 1969 and in January, 1970. Only the highest two checked ratings are included as percentages in this graphic. The only exactly consistent ratings between the two groups of students are on the knowledge of subject area. This is somewhat reflective of Harper's hiring policy of insisting on a master's degree in the subject field. Gains or increases in other sections such as increased flexibility, putting students at ease, fairness in grading, increasing student interest, and organization and planning can all be related to instructional development.

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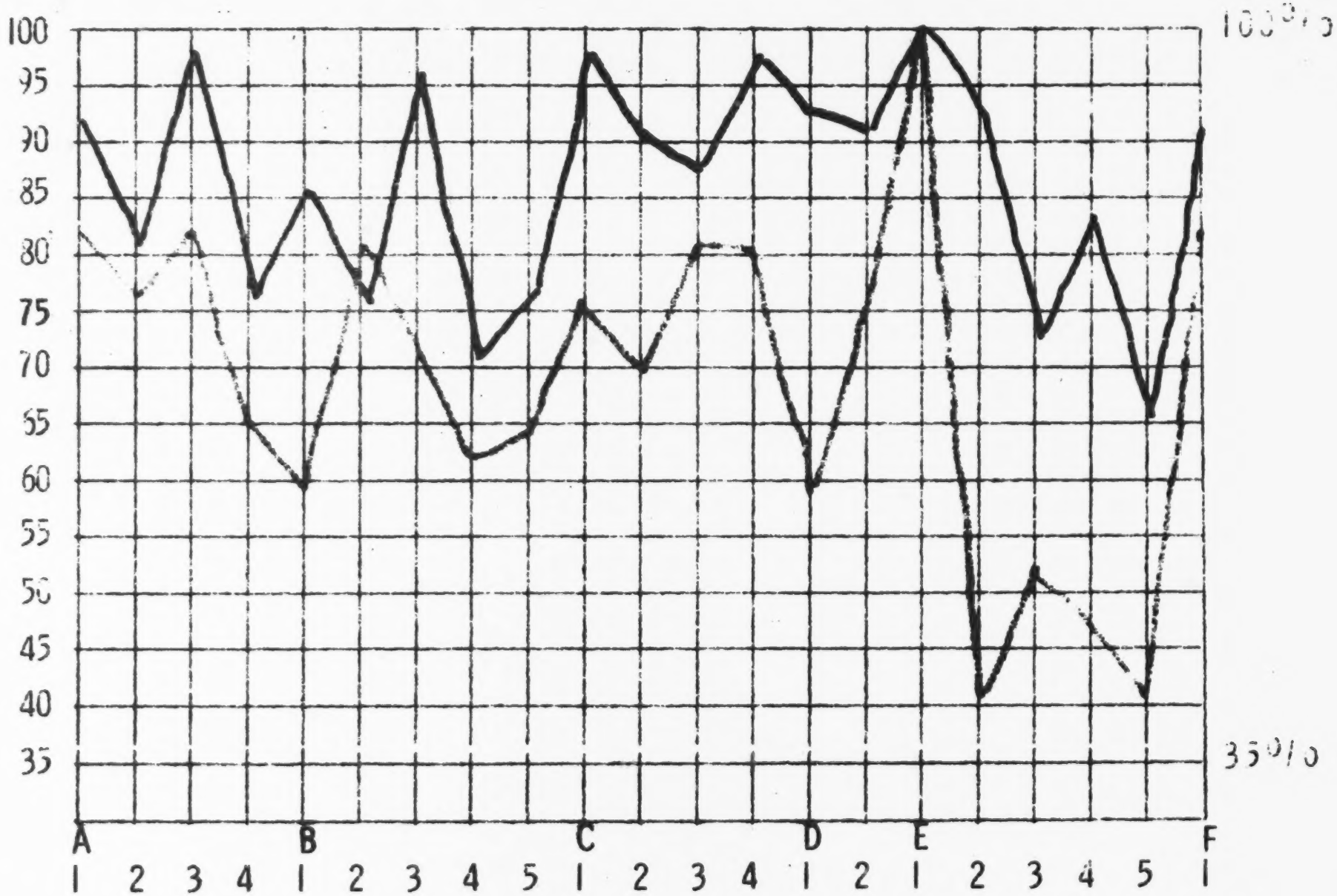
TEACHER EVALUATION
(ACCOUNTING 101)



TEACHER EVALUATION

DIRECTIONS: This evaluation form has been arranged in such a manner that you can answer all questions without revealing your name through your handwriting. If you answer each item frankly and honestly, the results will give your instructor information on how you feel about this course and the procedures used. Indicate your evaluation by rating each item with: A (Superior) B (Good) C (Average) D (Below Average) F (Poor).
DO NOT WRITE YOUR NAME ON THIS FORM.

%

	A+B	A	B	C	D	F
A. MANNER OF PRESENTATION:						
Ability to speak distinctly and in an engaging voice	82	35	47	18	0	0
Poise in the classroom	77	53	24	24	0	0
Self-confidence	82	53	29	18	0	0
Ability to get student cooperation and attention readily	65	30	35	35	0	0
B. RELATIONSHIPS WITH STUDENTS:						
Ability to make students feel secure and at ease	59	24	35	29	12	0
Genuine interest in students	82	29	53	6	12	0
Friendliness (Conversational-sense of humor)	94	41	53	6	0	0
Provision for your individual differences	62	6	56	37	0	0
Fairness in grading and fairness in dealing with students	64	35	29	24	12	0
C. PERSONAL CHARACTERISTICS:						
Personal appearance	76	29	47	24	0	0
Exercise of good judgment and tact	70	29	41	29	0	0
Emotional stability and maturity, not easily upset	82	47	35	18	0	0
Interest and enthusiasm about teaching and about subject matter	82	41	41	18	0	0
D. CLASSROOM MANAGEMENT:						
Resourcefulness--ability to meet unexpected situations	59	24	35	41	0	0
Ability to plan and organize activities efficiently	77	24	53	24	0	0
E. KNOWLEDGE OF THE SUBJECT MATTER AND PROFESSIONAL SKILLS:						
Knowledge of subject matter being taught	100	76	24	0	0	0
Ability to make classroom work interesting	41	6	35	41	12	6
Preparation of tests and examinations	53	6	47	47	0	0
Fairness in assigning marks	47	18	29	41	12	0
Adequacy of grading system	41	12	29	35	24	0

TEACHER EVALUATION

DIRECTIONS: This evaluation form has been arranged in such a manner that you can answer all questions without revealing your name through your handwriting. If you answer each item frankly and honestly, the results will give your instructor information on how you feel about the course and the procedures used. Indicate your evaluation by rating each item with: A (Superior) B (Good) C (Average) D (Below Average) F (Poor).
DO NOT WRITE YOUR NAME ON THIS FORM.

	%					
	A B+	A	B	C	D	F
A. MANNER OF PRESENTATION:						
Ability to speak distinctly and in an engaging voice	91	56	35	8	0	0
Poise in the classroom	81	45	36	19	2	0
Self-confidence	98	72	26	4	0	0
Ability to get student cooperation and attention readily	75	43	32	21	6	0
B. RELATIONSHIPS WITH STUDENTS:						
Ability to make students feel secure and at ease	86	43	43	11	4	0
Genuine interest in students	76	57	19	17	4	3
Friendliness (Conversational-sense of humor)	96	70	26	4	0	0
Provision for your individual differences	71	43	28	21	2	6
Fairness in grading and fairness in dealing with students	76	38	38	13	4	2
C. PERSONAL CHARACTERISTICS:						
Personal appearance	97	57	40	2	0	0
Exercise of good judgment and tact	90	45	45	9	2	2
Emotional stability and maturity, not easily upset	88	60	28	11	2	0
Interest and enthusiasm about teaching and about subject matter	97	82	15	4	0	0
D. CLASSROOM MANAGEMENT:						
Resourcefulness-ability to meet unexpected situations	93	57	36	11	0	0
Ability to plan and organize activities efficiently	92	49	43	9	0	0
E. KNOWLEDGE OF THE SUBJECT MATTER AND PROFESSIONAL SKILLS:						
Knowledge of subject matter being taught	100	91	9	0	0	0
Ability to make classroom work interesting	86	43	43	13	4	0
Preparation of tests and examinations	72	38	34	23	4	0
Fairness in assigning marks	83	47	36	11	4	2
Adequacy of grading system	64	32	32	23	9	2

WILLIAM RAINEY HARPER COLLEGE
Division of Business

PLAN FOR THE DEVELOPMENT OF AN ACCOUNTING UNIT ON INTRODUCTION TO ACCOUNTING

I. Analyze audience:

We assume no previous knowledge of the subject on the part of the learner.

II. Unit Goals: Unit: Introduction through the Accounting Equation

The learner must be able to:

A. State the accounting equation
B. Give the five classification of accounts
C. List the real accounts
D. Dist the temporary accounts
E. Give the account balances and show how accounts are increased and decreased

III. Unit Strategy:

Tape basic instruction in methods of accounting in lectures, using verbal explanation and examples, and hand-out work sheets for the student to use for responses.

IV. Resources Used:

Sources of examples and concepts (basically Principles of Accounting, plus other books and previously-collected materials), problems and over-lays are original materials.

UNIT ON INTRODUCTION TO ACCOUNTING

V. Sequence of presentation

A. General definition of terms
B. Accounting Equation
C. Classification of Accounts
D. Account balances, increases,and decreases

VI. Student evaluation on this unit:

The learner must be able to complete correctly and according to the principles developed during this unit at least 70% of the questions and/or problems that are put to him during an examinations.

Prepared by Rose Trunk

March 12, 1969

UNIT: Introduction through accounting equation
PROBLEM

ASSETS = LIABILITIES + CAPITAL

$ 100 = $ + $

ACCOUNT:

TITLE

Left side DEBIT	Right Side CREDIT

C A S H

$ 1,000	$500

Which side is larger? _____
Account Balance $ _____

ACCOUNTS PAYABLE

400	500 600

Which side is larger? _____
Account Balance $ _____

Temporary Accounts:

Real Accounts:

WILLIAM RAINEY HARPER COLLEGE
Division of Business and Social Science

GENERAL COURSE OUTLINE

BUS 101 Principles of Accounting I 3 Credit Hours

I. Description of Course

The basic accounting concepts are introduced early and are repeatedly emphasized through the course. At the outset, the student is introduced to the balance sheet and to the fundamental equation, Assets= Equities. This fundamental accounting equation, on the basis of the double-entry theory of accounting, is developed. Business transactions are analyzed, classified, recorded, summarized, measured, and the results are presented in various informal and formal reports. The accrual basis of acounting and other fundamental accounting principles are developed. Accounting systems for an adequate internal control of cash receipts, cash disbursements, payroll expenses, and pay-roll taxes are studied. Some of the main problem areas studied are: deferrals and accruals, inventory and cost of goods sold, depreciation and plant assets.

II. General Objectives

The student must be able to analize, classify, and record a business transaction. Take a trial balance, make necessary end-of-period adjustments, complete an eight-column work sheet and to be considered correct it must balance. Write in acceptable accounting form the formal statements: income statement, capital statement and balance sheet. The student is to be able to analize and interpret the information for managerial planning and operational control.

III. COURSE OUTLINE

Course assignments subject to change as dictated by the student need and time limitations.

BASIC STRUCTURE OF ACCOUNTING THEORY

First Week - Chapter 1

1. Accounting Defined
   a. American Institute of Certified Public Accountant's definition
   b. Other definitions
2. Relationship of accounting to other field
3. Accounting as a tool for management
4. Accounting as an aid in the preparation of reports for local, state and federal government agencies
5. The fundamental accounting equation

ASSIGNMENTS: Problems 2,4
Study Guides A,B

Objectives: Unit I

Chapter 1

1. Define accounting

2. Identify the following

   a. assets, liabilities, capital
   b. balance sheet
   c. revenue and expense
   d. income statement
   e. accounting equation

Chapter 2

1. Analyze and record transactions

2. Identify the following:
   a. debit and credit
   b. balance sheet account

3. Classify accounts

4. Take a trial balance

Unit 2

Chapter 3

1. Journalize transactions in proper journal form

2. Post to proper accounts

3. Take a trial balance using the procedures learned in this chapter

Chapter 4

1. Analyze and formulate the necessary adjusting entries
   a. prepaid expenses
   b. plant assets - depreciation
   c. accrued expenses - liabilities

2. Complete a work sheet
   a. trial balance column
   b. adjustments
   c. adjusted trial balance
   d. income statement column

Second Week - Chapter 2

1. The theory of the debit and credit
2. Nature of an account
3. Ledger and trial balance

ASSIGNMENTS: Problems 4
Study Guides A,B

Course Outline - Principles of Accounting 1

ACCOUNTING CYCLE FOR A SERVICE ENTERPRISE

Third Week - Chapter 3

1. Differentiate between a sole-proprietorship, partnership, and a corporation
2. Need for journals
3. Posting
4. Discovery and the correction of errors

ASSIGNMENTS: Problems 2,4
Study Guides A,B

Fourth Week - Chapter 4

1. Work sheet as an accountant's aid
2. Financial accounting statements
3. Recording the proper cut-off information
4. Ruling and balancing the accounts
5. Post-closing trial balance

ASSIGNMENTS: Problems 3,4
Study Guides A,B

ACCOUNTING CYCLE FOR A MERCHANDISING ENTERPRISE

Fifth Week - Chapter 5

1. Sales journal and related business transactions
2. Sales returns and allowances journal and related business transactions
3. Cash receipts journal and related business transactions
4. Accounts receivable subsidiary ledger

ASSIGNMENTS: Problems 2,4
Study Guides A,B

Sixth Week - Chapter 6

1. Purchases journal and related business transactions
2. Purchases returns and allowances journal and related business transactions
3. Cash payments journal and related business transactions
4. Accounts payable subsidiary ledger

ASSIGNMENTS: Problems 4
Study Guides A,B

Accounting I, Business 201

The course was taught mainly as a problem-solving course with some lecture and some lecture-demonstration. Essentially a chapter was assigned, any lectures or demonstrations were given, homework problems were assigned, and the homework problems were gone through in detail in class with the use of an overhead projector.

As a result of the summer workshop, a course outline and student behavioral objectives were developed for the course. The behavioral objectives spelled out for the student exactly what he was expected to accomplish in the course. Tests were made up using the behavioral objectives, being very careful that everything on the tests were covered by behavioral objectives in the course outline.

75% of the 20 students surveyed in the classes, found the behavioral objectives very helpful. Another 15% of the students would have been just as well satisfied with a regular course outline. 10% or 2 students did not like the behavioral objectives. Their main objection was that it made the course too easy. However, unknown to them, the tests in the course were more demanding than they could have been without some detailed guide for the students to study.

WILLIAM RAINEY HARPER COLLEGE
Division of Business and Social Science

GENERAL COURSE OUTLINE

Bus 201 Intermediate Accounting I 3 Credit Hours

I. Description of Course

This is a problem oriented course in intermediate accounting which covers in depth the accounting process, the reporting process, fundamentals of accounting theory, inventories, tangible and intangible fixed assets, cash, investments, and liabilities.

II. General Objectives

The student should be able to set up and keep a sophisticated set of books for a business. He should also be able to interpret and analyze the accounting statements of a business.

III. Student Objectives

Student objectives are listed on the unit outlines which will be handed out preceding each unit.

IV. Course Outline

Weeks	Unit	Exercises	Problems
1-5 Week	Unit One - Accounting Process, Reporting Process, & Accounting Theory		
1	Chapter 2	1,3,4	1
2	Chapter 2	9,10,11	3
3	Chapter 3	4,5,6	2,5
4	Chapter 4	1,2,7	1,4
5	Chapter 1	To be selected	
6-9 Week	Unit Two - Inventories		
6	Chapter 5	2,4,5,9	2,6
7	Chapter 6	5,7,8,9	1
8	Chapter 7	10	1,2
9	Chapter 7		4,10

WILLIAM RAINEY HARPER COLLEGE
Division of Business and Social Science

STUDENT OBJECTIVES

Bus 201 Intermediate Accounting I

UNIT FOUR - RECEIVABLES, LONG-TERM INVESTMENTS in STOCK, and CURRENT & CONTINGENT LIABILITIES

Student Objectives	Exercises	Problems
1. The student is able to make the journal entry to write off uncollectable accounts.		
2. The student is able to make the journal entries to handle the situation where a customer's account which was previously written off as uncollectable, becomes collectable.		
3. The student is able to estimate the valuation of uncollectable receivables using the following methods: (1) percentage of net sales, (2) percentage of credit sales, (3) percentage of accounts receivable, (4) aging of accounts receivable.	12-4	
4. The student is able to discuss in writing the pro and con arguments, involving good accounting theory, regarding the above four methods (objective # 3) of arriving at the estimated amount of uncollectable receivables.	12-5,12-6	
5. The student is able to properly report on the balance sheet a credit balance in a customer's account.		
6. The student can calculate the interest on a note receivable.	12-4	
7. The student can calculate the cash received (proceeds) on a note receivable which has been discounted.		
8. The student is able to make the necessary journal entries for a regular note receivable, a note receivable which has been discounted, and notes receivable which have been dishonored.	12-9	
9. The student should be able to explain what we mean by factoring, pledging, or assigning accounts receivable.		

10. The student should be able to present long-term investments in the proper place on the balance sheet.

11. The student should be able to assign the correct cost to long-term investments. 13-1

12. The student should be able to properly present the following items resulting from long-term investments on the income statement: (1) dividend and interest income, (2) gains or losses from the disposition of long-term investments, (3) losses due to market value declines.

13. The student should be able to record in the accounts a stock dividend received or a cash dividend received or declared.

14. The student should be able to journalize the entries to record the receipt, sale, exercise, or loss of stock rights. (generally) 13-6 13-3

15. The student should be able to journalize the entries to record long-term investments. 13-5

16. The student is able to properly report current liabilities and contingent liabilities on the balance sheet.

17. The student, given a list of account titles plus information about the accounts, can pick out those accounts which sould be classified as current liabilities or contingent liabilities.

*Students are expected to use their textbooks as a source of information which will enable them to accomplish the above objectives. The exercises and problems after specific objectives will be a help in achieving that particualr objective.

BIOLOGY

BIO 101 - William Miller

BIO 110 - Betty Juergensmeyer

BIO 120 - Don Wachlin

BIO 130 - Don Wachlin

BIO 160 - Ray DePalma

BIO 170 - Ray DePalma

MEMO TO: George Vogel - 9/5/69

FROM: Bill Miller, Biology.

I worked up some objectives for Bio 101 and thought you might like a copy.

I used them this summer and found them to be very useful —

I'm convinced.

Bill

William Rainey Harper College

BIO 101

Selected Student Comments on the Objectives

I told the students I was in the process of deciding whether to use them next semester and I would like their opinion. Nearly all opinions were favorable.

"In my opinion the objectives are good under one condition; the tests are based on them. The objectives give the student a fairly good outline of the chapter and its contents. I feel they should be continued for those who want to do the work. Those who do not work on them will suffer in the long run."

"I think they are very helpful. I have just studied the objectives (not even read the chapters) and have gotten Bs on the last 2 tests. When I read the chapters and don't follow the objectives I got Cs on my tests. I think they are very worthwhile and helpful."

"Very worthwhile as a study guide. Also very handy for studying for a test. The objectives help one to follow the class lectures, i.e., one can review the specific material to be lectured on before class."

"The objectives for biology 101 have been extremely helpful. They not only gave me an outline to study by, but also gave an idea as to what you were expecting from us, the students."

"They're good for a beginner student - for quick reference because you can build around them.

"I think the objective sheets are very helpful. They help prepare you for the tests and tell you what to concentrate on in your reading. Keep them next semester."

"Definitely keep the objectives. They were a terrific help for me. They're sort of a self-help study sheet."

"Yes, definitely! I think that they have helped me considerably. This is the first class where they've handed them out. I like to have them. They're a great help."

Results:

In the spring semester 1969, about 72 students in two sections of Bio 101 were taught without objectives and given

BIO 101 - *continued*

a 140 pt. final. The results at that time produced a median score of 80-84 points.

This summer, 22 students in one section of Bio 101 used the prepared objectives. The same final (omitting two questions, produced a 138 pt. final) showed a median score on the high side of a 90-94 point range.

This evidence plus the more subjective evidence provided by way of student comments, indicated that the time spent in preparing the objectives was worthwhile.

Outline of Course Objectives for Bio. 101

Catalog Discription:

BIO 101 Biology Survey (3-0) 3hrs.

Survey of science of biology emphasizing chemical and physical properties of living things, over-view of plant and animal kingdoms, systems of control, growth, differentiation, reproduction genetics, evolution, ecology.

General Topics Presented:	Lecture periods/topic
Nature of Science	2
Basic Chemistry for Biology	6
Organization of Living systems	4
Plant and Animal Diversity	6
Steady State Control	2
Photosynthesis and Respiration	5
Growth-Development	3
Reproduction and Intro. to Genetics	6
Variation-Natural Selection-Evolution	5
Biology and Human Affairs	2
	45 (3 wk.over 15 wk.)

Testing for Objectives in Bio. 101

Test #	Objectives in Gen. Topics	Time
#1	Nature of Science Basic Chem.	1 per.
#2	Organization of living Systems Plant and Animal Diversity	1 per.
#3	Steady State Controls Photosyntheis-Respiration Growth and Development	1 per.
#4	Reproduction and Intro. to Genetics Variation-Nat. Selection-Evolution	1 per.
Final	Will cover all general topics, including the remaining topics (Ecology and Human Affairs) that were not previously tested for.	

Bio. 101 Objectives

Nature of Science **Ref. Chapt. #1**

1. Give two examples of observable phememona which science can deal with.
2. Give two examples of questions which science cannot deal with.
3. Explain why scientists deal with data not facts.
4. Explain why scientists deal with probabilities not certainties.
5. Explain why scientists construct theories not laws.
6. Give two examples of uniformities that can be expected in nature.
7. Be able to list the steps of the scientific method and be able to outline a problem which illustrates the method.
8. Give an illustration of a cause-effect relationship.
9. List four possible explainations for the origin of livings things.
10. Be able to name at least six common field of study in Biology and discribe generally what they deal with.
11. Give an example to illustrate the difference between research and applied science.
12. Be able to give at least two good reasons for studying Biology.
13. Be able to discribe the classic Pasteur experiment.
14. Be able to give examples of at least four major theories that have had great impact on human society.
15. Be able to list the general characteristics of a living organism.

Bio. 101 Objectives

Organism-Environment Relationships Ref. Chapt. #10

1. Be able to define the following terms: Environment, ecosystem, food web, primary producer, primary consumer, secondary consumer, decomposer, predator, carrying capacity.

2. Be able to name at least five physical factors that influence nearly every environment.

3. Be able to name two biotic factors which influence nearly every environment.

4. By using one of the examples below, be able to describe how the animal or plant can influence the state of the environment.

5. Be able to illustrate by the use of a diagram both the carbon and the nitrogen cycle.

6. Be able to discuss the general role of predators in the environment.

7. Be able to show how energy is passed in a terrestrial or aquatic ecosystem.

8. Be able to show how energy is lost as it moves through various trophis levels in the - "pyramid of number".

9. Be able to name the most common index plant and animal in each of the stages of succession from sand dune to a hardwood forest in the sand dune area along Lake Michigan.

10. Be able to describe what will eventually happen to all of the ponds and lakes.

11. Be able to tell how one recognizes a "climax" community.

12. Be able to show how toxic materials such as DDT can be passed through an ecosystem.

13. What relationship does the pyramid of numbers have on the food habits of various peoples of the world.

14. Be able to name the major biomes found in North America and describe what physical factors are chiefly responsible for keeping the biome in this condition.

BIO 101 Objectives

Questions No.		
	Growth-Development	**Ref. Chapt. #7**
	1. Be able to define the terms mitosis and cytokinesis and parthenogenesis.	
21-24	2. Be able to recognize and describe the following stages in cell division: interphase, prophase, metaphase, anaphase, telophase.	
	3. Be able to name one internal and one external factor which influences development in the early stages of division of the fertilized egg.	
25-29	4. Be able to name the various tissues which will eventually develop from the embryonic ectoderm, mesoderm and endoderm.	
	5. Be able to describe the classic experiment done by Spemann to illustrate differentation by induction.	
	Reproduction and Intro. to Genetics	**Ref. Chapt. #7**
	1. Be able to explain the basic difference between sexual and asexual reproduction.	
	2. Be able to give an example of one species of plant and one species of animal that reproduces only by asexual methods.	
	3. Be able to name three methods of vegetative (asexual) reproduction used to propagate plants.	
	4. Be able to describe the pattern of reproduction in plants which involves an alternation of a sexual phase with an sexual phase.	
	5. Be able to describe the general pattern of reproduction used by sexually reproducing animals.	
	6. Be able to recognize the stages in the meiotic process and point out the differences between mitotic and meiotic division.	
	7. Be able to state Mendel's three laws.	
49,50,55	8. Be able to do a problem involving a monohybrid cross, and one involving a dihybrid cross.	

BIO 110

Cellular Biology

Biology 110, Cellular Biology, is a course which was first offered in the Fall Semester, 1968. It is the first biology course a student takes if he has completed high school biology, and it is a prerequisite to all advanced biology courses.

Cellular biology now meets 3 hours a week for lecture-discussion and 3 hour a week for laboratory. In science courses, the laboratory is a most critical item since it is in the laboratory that the student learns how to apply the scientific method of study as well as observing phenomena discussed in class. During the summer of 1968, the laboratory manual was written and then distributed on a weekly basis during Fall semester. It is now available in the bookstore in bound form.

Also, during the summer and fall semesters, a series of course objectives were developed. These course objectives present to both the students and the faculty members the items which are covered in the course. The faculty members - there were five during fall semester - use the objectives to assure uniformity of course content. Plans for 1969-70 call for two one-hour lectures, a one-hour discussion and a three-hour laboratory each week. The lectures will be in large groups, the discussions and laboratories in groups of 30 or less. Up to half of the laboratories will be audio-tutorial when the A-T equipment is installed in "D" building.

Three group tests are given to all students in the course and are evaluated jointly. Individual instructors give quizzes, homework and laboratory test at their discretion, and these items account for two-fifths of the final grade.

BIO 110 - *continued*

As of the fall, 1969, a direct result of the Harper summer Curriculum Workshop, the following has been accomplished:

1. A complete semester set of specific lecture objectives for Bio 110 - Cellular Biology.

2. A partial set of specific laboratory objectives for BIO 110 - Cellular Biology.

3. All exams given the second or third time were different from the previous yet covered the same material as described in the objectives.

4. This is currently being done in Cellular Biology, but with the biology facilities unfinished and the large number of students in the lectures, there have been many logistical problems.

5. All specific lecture objectives are tied in directly to handout sheets, overheads and other visual and lecture material that they receive.

Results:

A. About 80% of the students who took the exam over, raised their test grade one letter, 15% brought it up two letters and about 5% stayed the same or dropped a letter.

B. All students that participated in exam retake heartily approved and were grateful for the opportunity.

C. Students reactions have all been positive. They especially appreciate the objectives.

BIO 120

Botany

This course was first taught in the summer of 1968. The plan of the course is centered around the use of the manual, Plant Science - An Audio-Tutorial Approach, developed at Purdue University. Since we are not as yet set up for Audio-tutorial use, the course has used more or less conventional approaches with A-T usage coming into use as space and materials become available.

The summer session on innovation showed me course objectives could work and now objectives have been drawn up for use on each main learning concept. Examples of a set of objectives for the unit on germination are given below along with an example questions to test one of the objectives.

Student knowledge of 80% of the objectives is expected as satisfactory achievement and so far most of the students can do this. Student interest seem to be good. In another year, more valid evidence can be obtained through the use of pretests.

Good courses do not develop in a short time. They evolve rather slowly over a period of 3 or 4 years. Even after this period, changes will still be made.

BIO 130

Microbiology

The summer session made me more conscious of the need for teachers to make the course material more easily understandable to all students. It developed the need for new approaches to teaching, new teaching techniques and above all more conscious of the necessity to develop ideas on how to help students learn to succeed in a science course.

Students like the idea of having objectives given to them because they state exactly what the students are expected to know and the fact that the exams cover only the material stated in the objectives.

Lecture:

Included in the lectures are discussions and demonstrations augmented whenever possible by A-V materials, colored chalk drawings, photographs and specific demonstration materials, following objectives.

Lab:

After the necessary introductory remarks, students follow printed lab instructions and objectives in performing the experiment.

Following the experiment, we take time to discuss the results, knotty problems, areas for improvement and the implications of the experiment.

Exams:

Three lecture exams and three lab exams are given each semester. Additional obligations for the student are the lab

notebook which is checked periodically, a question and answer notebook for the review questions at the end of each chapter and a term paper covering a specific disease. Books on reserve are made available for the term paper.

I have a policy of allowing students to take a second exam over the same material regardless of their original grade, but only if they want to. This has elicited a favorable response.

Currently, a considerable amount of pictorial material to convert to overlays for the lectures and labs is being collected. Review of significant 16mm films, film strips, single concept films, 2 x 2 slides, etc. is also being done.

Both general and specific behavioral objectives are being completed and revised. I gave a pretest this semester and they all should stay in the course.

....

Other Activities Include:

1. Looking at a new programed text in microbiology.
2. Considering setting up one or two A-T lab exercises.
3. Completion of pictorial material conversion to overlays for the lectures and labs; and review of significant 16mm films, film strips, single concept films, 2 x 2 slides, etc.
4. Trying to provide students with copies of exams similar to the real exams they will actually take.
5. Phase contrast microscope hook up to TV monitor.

....

As of the fall, 1969, a direct result of the Harper summer Curriculum Workshop, the following has been accomplished:

BIO 130 - *continued*

Microbiology

1. A complete semester set of specific lecture objectives for BIO 130 - Microbiology.

2. A partial set of specific laboratory objectives for BIO 130 - Microbiology.

3. In microbiology, all students were given the opportunity to retake an exam for the second or third time if they performed poorly the first or second time. In either case, the highest grade, whether on the first, second, or third exam was the grade recorded. In most instances, the students who repeated the exam had received a D or an F. However, some B students wanted an A and were given the same opportunity. All exams given the second or third time were different from the previous yet covered the same material as described in the objectives.

4. All specific lecture objectives are tied in directly to handout sheets, overheads and other visual and lecture material that they receive.

Results:

A. About 80% of the students who took the exam over, raised their test grade one letter, 15% brought it up two letters and about 5% stayed the same or dropped a letter.

B. All students that participated in exam retake heartily approved and were grateful for the opportunity. Students reactions have all been positive. They especially appreciate the objectives.

MICROBIOLOGY BEHAVIORAL OBJECTIVES, BIO 130

Lecture - Chapter 1

The Scope of Microbiology

1. All students will define the term microbiology.
2. All students will become familiar with the various groups of organisms included in microbiology.
3. All students will learn the taxonomic relationship of these microorganisms.
4. All students will learn the parts of a cell.
5. All students will understand how microbiology is related to other biological sciences and to the physical sciences.
6. All students will become familiar with characteristics that all biological systems have.
7. All students will learn the significant differences between procargon and encargon types of organism.
8. All students will learn about the following microbiological terms:

   A. culture
   B. pure culture
   C. mixed culture
   D. culture medium
   E. tissue culture

9. All students will learn about the metric system as applied to microbiology.
10. All students will develop an appreciation of the compound light and electron microscopes.
11. All students will develop an appreciation of some of the commerical importance of microorganisms.

MICROBIOLOGY BEHAVIORAL OBJECTIVES, BIO 130

Lecture - Chapter 2

The Evolution of Microbiology

1. All students will know the significant contributions that the following persons have made to the science of microbiology:

*Leeuwenboek	Klebs & Loeffler	Lister
Redi	Von Behring & Kitasato	Welch, Ernst & Russell
Spallangani	*Salmon & Theobald Smith	*Walter Reed
*Pasteur	*Metchnikoff	
*Koch	*Ehrlich	
*Lister	Widal	*Winsgradsky
Jenner	Wasserman	

*Lipman & Krebs	helbriegal & willfarth
*Ledeberg, Beadle & Tatum	Beijerinch
Avery	Hansen
*Ochoa & Kornberg	Adametz
*Salk, Cox, Koprowski, Sabin	Conn
	Weigmann
	Burrill
	Mayer
	Erwin Smith & Bonquet
	Iwanowski
	Hashimoto
	Ball, Adams, Shaw
	*Stanley & Northrup
	*Enders, Robbins, Weller

*MOST IMPORTANT

2. All students will know reasons why some scientists have been given credit for major discoveries and others have not.

3. All students will know the four periods of development in microbiology and the approximate time spans for these periods.

4. All students will become aware of the influence of lenses and microscopes on microbiology.

5. All students will become aware of the significance of the controversy of spontaneous generation versus biogenesis.

6. All students will become familar with the pur culture concept.

7. All students will become familar with some of the historical evants leading to the field of immunization.

PARTIAL SAMPLE OF MICROBIOLOGY EXAM
Chapters 1-8

M.B.O.*

(1-2) 1. What groups of microorganisms are included in the study of microbiology?

(1-7) 2. List three characteristics of procaryon type of organisms.

(1-7) 3. List three characteristics of eucaryon type organisms.

(1-7) 4. Put down the groups of microorganisms in your answer in #1 above and then indicate after each whether it is a procaryon or eucaryon type organism.

(1-6) 5. Describe four characteristics from many that all living organisms (microbiological in particular) possess.

(2-3) 6. In the development of microbiology, there are four important time periods during which significant advances were made. List the approximate time for each period and the major contribution(s) within each period.

(2-1) 7. Name four men whose experiments led to the disproving of the spontaneous generation idea.

(2-2) (2-7) 8. Why is Pasteur sometimes referred to as the "Father of Bacteriology"?

(2-2) 9. Koch is regarded, along with Pasteur, as one of the two greatest early bacteriologists, particularly because of the scientific methodology he developed. Which of his methods are of importance today.

(2-4) 10. List two of the major limitations of light microscopy.

(2-4) 11. List two disadvantages of the electron microscope.

---

*Microbiology Behavioral Objectives related to the exam questioned.

BIO 170-171 - Bio-Physical Science

BIO 160-161 - Human Anatomy & Physiology

1. Initial amount of course designated in specific objectives:

2 UNITS

I) Introduction to anatomy*

II) The Skeletal System — Both Courses

III) Currently working on Muscle System

2. Amount of concept/task analysis completed for #1:

BASIC 1st LEVEL

Analysis of major unit - no sub unit analysis as yet.

3. Evaluation techniques for student performance:

I) Written exam in physiology (criteria type).

II) Oral and written practical exam on anatomy (Proficiency Type)*2

4. Level of satisfactory student performance for this sub-unit, unit, or course:

See *2

5. Evaluation techniques to be used in comparing the new approaches with previous instructional formats:

160-161 First performance --yearly evaluation as course is offered each year (after revision)

170-171 -- Compare to last year's performance

6. Future developments to be worked on this year:

Develop and construct program type learning-lab in organic chemistry unit - (Organ Molecule structure).

7. Other:

* - Cell studies, histology and body as a whole.

*2 - Must pass with 90% or better. (Recycle if student scores below standard.)

BIO 170-171 BEHAVIORAL OBJECTIVES

Behavioral (performance) Objectives are now in the second year of usage in Bio. 170-171. This years objectives have been refined and are more directive than last year. The expected performance by students is more definitely stated and directed to describing the task involved. These objectives are reviewed as a "prescription for success" in my course. If a student fills this "prescription", his chances of success are very high. If he or she ignores the objectives, the incident of failure is high.

Listed below are samples of some student feed back on the use of objectives:

1. "I'm gaining more self-confidence."
2. "I am only making a "C" in this course, but without the objectives, I would be lost."
3. "I wish more teachers in this college would use your kind of objectives."
4. "The objectives help me to prepare better for a test."
5. "I think I am learning more since I know what is expected of me and what direction I am going."
6. "It helps! It helps! I like them; I use them; I'm passing the course."
7. One student who failed the 1st exam and passed the second exam with a "B", explained her success as follows:

   "At first I did not pay any attention to the objectives. Other students told me that they used the objectives to to study and got good grades. In the second exam I used your objectives and you can see how I improved."

These are some of the typical feedback statements made by students using the objectives. To date the majority (93%) applaud the usage. The others (7%) report they use them, but

BIO 170-171 BEHAVIORAL OBJECTIVES - *continued*

don't indicate that the objectives contribute to their success. (Note: some of the 7% are not very successful).

Attendance is higher on days when objectives are handed out and discussed.

BIO 170 - Physical Science

Unit II - The Human Reproductive System - Introductory Embryology

PERFORMANCE OBJECTIVES

General objective: To identify, describe and recognize the structual make up and physiological activities the male and female reproductive systems.

1. Identify and describe the following key terms:

   a. gonads
   b. ovary
   c. testis
   d. ovum
   e. spermatozoa
   f. gametes
   g. gametogenesis
   h. fertilization
   i. zygote
   j. morphogenesis
   k. puberity
   l. menopause
   m. embryo
   n. fetus

2. Describe the mechanism of sex determination.

3. Describe, locate and identify the major male reproductive organs. Describe the functions of these organs.

4. Trace the route of the spermatozoa from the seminiferous tubules to the exit organ (penile urethra).

5. Describe the function and locate the following:

   a. epididymis
   b. spermatic cord
   c. prostate g.
   d. bulbourethral g.
   e. seminal vessicles
   g. corpus cavernosum
   h. corpus spongiosum
   i. dartos muscles
   j. ejaculatory duct

6. Recognize the phase of the male endocrine cycle.

7. Describe, locate and identify the female external genitalia. Describe functions of these organs.

8. Describe, locate and identify the internal reproductive organs of the female. Describe their functions.

9. Trace the female reproductive system from the vagina to the oviduct fimbria.

10. Describe the location and function of the uteral ligaments. Broad l., cardinal l., round l, and utersacral l.

11. Describe the structual (tissue) make-up of the uterus and the oviducts.

12. Describe and identify the structual and functional anatomy of the mammary glands.

BIO 170 - Physical Science - *continued*

13. Write a sequential description of the female mentrual cycle; including the uterine changes, ovarian changes (follicle and corpus) hormones (gonadotrophic).

14. Describe and identify the early stages of embryo morphogenesis (cleavage morula, blastula & grastrula).

15. Identify and describe the following key terms:

a. trophoblast	e. chorionic villi
b. amnion	f. blastocoel
c. chorion	g. archenteron
d. deciduabasalis	h. differentiation

16. Name the three (3) germ layers (ecto - endo and mesoderms) and the major systems that are derived from them.

    le: ectoderm - skin and nervous system, etc.

17. Describe the four functions of the placenta.

DATA PROCESSING

DPR 101 - Jay Singelmann

The manual used in the Introduction to Data Processing courses, which had its inception in the workshop, is in its second printing. This printing incorporates behavorial objectives for the various units that are involved. It is these objectives that bring to point two observations:

1. The instructors have a basis around which to orient their instruction which tends to produce more uniformity of material and how it is presented from one instructor to another.

2. The students, by having the objectives of the various area designed for them, are more cognizant of what they will be expected to know and do as a result of studying the material.

Both of these statutes tend to increase productivity of the course itself. Not only is more material covered during the course of a semester, but a greater student understanding of the various areas presented is accomplished.

As a result of the success achieved by this manual, other areas within the data processing curriculum have been upgraded to a more realistic method of presentation. The programing courses have been revamped so that all laboratory experience is no longer held by an instructor, but rather by a laboratory technician hired specifically for this purpose.

During the times when the student is supposed to be in lab, this technician is on hand to assist the student with any difficulties he may be having concerning programing. By freeing the instructors from handling the individual laboratories, it is possible for them to cover more classes within a given time period, thereby reducing the instructional staff necessary

to operate the program. It also allows the instructors more time to work with students on an individual basis, if they have questions that cannot be answered by the technician.

The keypunch courses, on the other hand, have been entirely recorded on magnetic tape which the students study on an individual basis. This individualized instruction is permitted by having multiple copies of the course material, and the necessary equipment to study it on hand for the student. Once the material on the various tapes has been completed and the student has achieved a sufficient level of knowledge, he encounters a series of exercises and timings designed to develop his skill and accuracy on the machine.

Once again, the keypunch persons have available to them both the instructor during regular class time, and the technician during the hours in which the flexible laboratories are open. By having such a method of presentation in keypunch, the individualized student progress is facilitated. That is, students may progress at their own individual rates of speed or, as necessary, review the material on their own without either bothering or being bothered by the other members of the class.

All of the teaching methods indicated above, have been received quite well by the students. The introductory manual provides some of the greatest student feedback in terms of letting them know what they will be required to do. Once they close the bridge of realizing that the objectives provided in the material are not there to bring a halt to studying, but rather are a guide as to what they should study, they achieve

much more rapidly and completely than if these materials are not used.

The programing labs have created only one problem, and that is of now trying to get rid of an overly enthusiatic group of students. What used to be a group of students that came to class, spent the required amount of time and went on their way, is now a group of students that literally live in the data center laboratory. To date, we have had no negative implications concerning the programing laboratory.

The keypunch situation is one which we feel needs further examination and research to determine its validity. This will be done during the oncoming semester by setting up various control groups and utilizing various methods of presentation to determine the effectiveness in achieving the desired goals.

DPR 101

Introduction to Data Processing

Although I have not been teaching the course I worked on this past semester, the objectives and outline that I developed have been used by three other instructors in a total of five sections, involving approximately 125 students. My own reactions from the fall semester are also included in this report.

Student reaction was favorable for the most part with only one notable exception. There seemed to be an original misgiving that now they would have to do nothing except sit back and pass. Once this was overcome there seemed to be a feeling developed that nobody was putting them on, just trying to make the process of education more enjoyable and meaningful.

Achievement was obtained in two areas. First of all, the students lost some of their fear of a technical course and became more interested in the material. Secondly, they seemed to grasp the material more quickly. Although they did not tremendously outrank prior classes in comprehension, they did manage to cover much more material in the same period of time and thereby build a larger concept or overall appreciation of the material.

Student motivation seemed at first to drop, then slowly rise much higher than in previous classes. The initial low appeared to be caused by two factors. Students first thought the course to be over simplified and instructors were not completely at ease with the new approach. Both causes seemed to disappear rather quickly.

More time is now spent explaining the principles behind the new approach in order to set the correct atmosphere for the

students. In addition, instructional personnel have incorporated more material into the same course framework.

Future plans mainly include media development to augment the material developed to date. In the planning stages are magnetic tape, slides, overhead projections, and videotape teaching materials.

An
Informational Outline
For
Introduction to
Data Processing

by

Jay Singelmann

February, 1969

Preface

The effectiveness of a college course in data processing should be measured by the students ability to apply the concepts and principles to an actual situation. It is to this end that this manual has been prepared.

The manual is designed to serve the needs of those students who want only a survey knowledge of the field and also those who wish to embark on a career in data processing. The objectives stated herein were developed to handle a wide variety of student needs in an introductory data processing course. These objectives are included to serve as a study guide for the student to define what he will be expected to do as a result of the course. The text references included in the outline refer to the second edition of Business Data Processing by Elias M. Awad. However, this material can easily be used as a supplemental text in conjuction with any current text in elementary data processing concepts.

I would like to thank those who directly and indirectly helped in the production of this manuscript. I especially thank Roy Sedrel, Director of Data Processing, William Rainey Harper Jr. College, for his helpful suggestions, interest, and refinement of various sections of the manuscript.

I also thank my colleagues in the Data Processing Department of Harper College for their constructive criticism and suggestions in the developmental stages of the manuscript.

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UNIT ONE OBJECTIVES

General Objective:

The purpose of this unit is to develop within the student an understanding of the overall field of Data Processing and the reasons for its existance.

Specific Objectives:

In order to determine how well the overall objective of this unit has been met, the student will be measured on his ability to perform the following activites. A minimum level of performance for passing will be 70%.

1. Differentiate between business and scientific Data Processing by enumerating and explaining several unique characteristics of each.

2. List and explain at least five reasons for the necessity of Data Processing in a business operation.

3. Differentiate between internal and external pressures on business for Data Processing by listing or matching at least three examples of each type of pressure.

4. List and explain the five steps in the Data Processing cycle (or)
   Match the steps in the Data Processing cycle with their appropriate definitions or characteristics.

5. Describe what is meant by a 'system' and apply the description to a Data Processing situation.

6. List and briefly explain the four types of Data Processing systems and their related operational equipment.

7. List and/or match the five steps in the Data Processing cycle and briefly describe how they apply to the four types of Data Processing systems.

8. Describe what is meant by the term "automation".

UNIT ONE OUTLINE

DATA PROCESSING 101

Text Ref

I. INTRODUCTORY DATA PROCESSING CONCEPTS

76 A. What is data processing?
1. Data: Facts
2. Processing: Performing a series of common actions to a given end

B. Business vs. scientific data processing
1. Business:
a. Report oriented
b. File oriented
c. Repetitive in nature
2. Scientific:
a. Mathematically oriented
b. Non-repetitive in nature

4 C. Reasons for data processing
8 1. Management feedback (one of the primary reasons for data processing of any type) - allows management to make decisions based on current data
5 2. Pressures
a. Internal
1) Inventory control
2) Payroll
3) Accounts receivable and payable
4) Decision making
b. External
1) Stockholders
2) Government reports
3) Advertising
4) Credit sales
7 3. Speed and up-to-date reports
7 4. Accurate information
6 5. Economically sound

D. Data processing cycle - (See diagram number 1)
67 1. Source documents - Raw transactions to be processed
2. Input - The process of changing source documents into a form that is acceptable by the system being used.
68 3. Processing -
71 a. Classifying
b. Sorting

Text Ref

71 c. Calculating
71 d. Recording partial results
72 e. Summarizing
72 4. Output - The result of processing (i.e. - the retrieval of data from the system)
75 5. Storage - Retaining data for future use

E. Systems
1. General description - A set of procedures designed to reach a specific goal
2. Need - Lack of a system of some sort results in chaos - In order to reach any goal a method of reaching it must first be determined.
3. Examples and classroom demonstrations (apply steps of data processing cycle)
a. Lighting a cigarette
b. Purchasing gum from a vending machine
c. Personal financial records
d. Inventory management
e. Systems overlapping

F. Types of data processing systems
1. Manual - A system in which all operations are performed by humans without the aid of machines
2. Mechanical - A system that involves the use of desktop calculators or similar equipment
10 3. Electro-mechanical - A system that involves the use of unit-record equipment
12 4. Electronic - A system that involves the use of computers

G. Automation - The performance of a series of tasks with minimum human intervention

MUSIC

MUSIC 200 - Robert Tillotson

MUSIC 200

Conducting

Music 200 was offered for the first time in the fall semester of 1968-69. The organization of Music 200 involved the following methods of presentation; lecture, discussion, listening, written assignments, and class performances. The methods of evaluation included written assignments, class performances with periodic written and conducting examinations.

Impact

The summer workshop provided new instructor insights and a more positive attitude towards utilizing behavioral objectives. It helped to further organize the instruction as a student centered program with greater concern for individual progress. It also increased the importance of continually analyzing the performance criteria teaching methods, and materials by separating and identifying the parts and skills which combine to form the total concept desired.

Results

1. The student reaction was very favorable once the students were convinced that the instructor was sincere in expecting only what was presented to them in the set of instructional objectives. It also seemed to be a very efficient method of teaching, since four out of the five students were able to successfully complete ninety per cent of the test items on the final examination. This very small sampling does not provide concrete evidence which allows one

to generalize about the quality or usefulness of behavioral objectives in all areas of music, but it does offer encouragement for further exploration of such techniques. It also does not mean to imply that if instructional or behavioral objectives are used, all students will be successful. The responsibility of success must still be shared by the student and teacher.

2. It is interesting to note the skeptical attitude of other faculty members when discussing instructional objectives. One concern is that such objectives dictate or limit one's ability to initiate new methods of presentation. This is not the case. Behavioral objectives do clearly define the content and levels of performance expected, but not how this material is to be presented. Another difficulty arises in explaining the amount of time and energy that is required to effectively organize one's teaching into instructional objectives. Many faculty members feel it impossible to devote adequate time to their regular teaching while trying to develop instructional objectives since both are very time consuming. While these criticisms are valid to some degree, I find, after working with behavioral objectives for one semester, the merits exceed those of a more traditional system.

Future

Even though Music 200 is not offered this semester, experiments with the use of closed circuit TV in student evaluation will be tried. It would greatly aid the student if he could visually see himself while in the process of conducting.

MUSIC 200

The efficiency and value of behavioral objectives in conducting needs further modification as well as documentation. It also is important to expand these concepts and techniques to include all areas of musical instruction.

One example is that Music 101 (Music Fundamentals for Non Music Majors) will be taught from a keyboard approach utilizing a new electronic piano laboratory. I feel it would be beneficial to develop a basic set of instructional or behavioral objectives pertaining to the notational fundamentals involved in playing keyboard instrument. This could be used as a supplement or requirement, depending on the needs of each individual student.

Hopefully, the use of instructional objectives will be fostered through the combined efforts of faculty by experimenting with new techniques and the administration by providing time and financial support to such efforts.

Since developing the behavioral objectives for Music 100 (Conducting) it has not been offered, therefore, no follow-up on these materials has been obtained. However, currently, work is going on a syllabus for music theory. This will utilize many of the basic techniques developed during the Summer Curriculum Workshops.

MUSIC 200

Curriculum Development

A complete unit of behavioral objectives as designed for Music 200. The subject matter was presented in the following sub-units:

Sub-unit I - Manual Skills

e.g. 1.00 THE BATON

1.1 List reasons for using a baton.

1.2 List reasons for not using a baton.

1.3 Demonstrate the following aspects of the basic grip and motion.

1.3.1 Good or positive points as illustrated by Green.

1.3.2 Bad or negative points as illustrated by Green.

etc. - - - - -

Sub-unit II - Interpretation of the Musical Score

1.1 List 7 problem in reading any score.

1.2 Describe 2 scanning procedures which aid in reading a musical score.

1.2.1 Give rationale for each procedure described in 1.2

etc. - - - - -

SOCIOLOGY

SOCIOLOGY 101 - Frank Oliver

SOC 101

Introduction to Sociology

The course was organized into six broad units as follows:

1. Introduction and Sociology as a Science
2. Culture and Personality
3. Social Organization
4. Social Interaction
5. Human Ecology
6. Social Change and Social Policy

The long-range course objectives were for the student to learn the basic concepts and substantive matter of modern sociology. It was hoped that each student would learn to think sociologically, i.e., to be objective, analytical, and systematic in dealing with various social phenomena. Latent purposes of the course were to help the student further develop his study and communication skills, both oral and verbal. Also, that each student more fully be aware of the various roles they fill and reasons for role-conflict.

Teaching strategy included lectures, discussion of topics, use of audio-visual media such as selected tape recordings (7 "Sound Seminars"), LP records ("Ways of Mankind") and motion pictures. Two written papers were required of all students.

The impact of the summer session on any course is manifest in the following ways:

> The instructor is now much more aware of deciding just what concepts to stress and to let my students have a clear idea of what is expected of them. The effect can only be positive for the student. He has more precise knowledge of what he is expected to do and to know. He can spend his time studying and learning rather than try-

ing to decide what it is that should be learned. An instructor's and student's syllabus for the course is developed. The syllabus includes instructional/learning objectives for each unit as well as media to be used for each topic. Students appreciate knowing more precisely what is required of them. It is a time-saver to have prepared written instructions on how to go about a given assignment. Besides three major exams, the seven tape critiques are used - the two written papers, and an optional social interaction observation report as criteria for student achievement in the course.

Through the use of new tape cassette recorders by students and faculty while at Forest View High School, the students were able to listen to the required "sound seminar" lectures on tape cassettes. The L.R.C. was requested to dub the "sound seminar" lectures (approx. 60 in number) on tape cassettes and now several faculty members are listening to various lectures as they drive to and from work.

The summer workshop resulted in the production of a Soc 101 Syllabus featuring behavioral objectives. The one big flaw in this syllabus is that it is based on one particular sociology text. This year a new text is being used and the syllabus is not effective in its present form.

A better approach would be to build a syllabus around the major sociological concepts and adapt a particular text to that syllabus. It is felt that released time to develop such a

syllabus is needed.

After completing the Soc 101 Syllabus last spring, a series of transparencies illustrating sociological concepts were developed into a 72 page "Index" (note: sample on following pages). At this time, a "montage" of tape-recorded pop and other songs is completed which should provide an interesting and sometimes humorous commentary on contemporary American society. The next step is to find suitable pictures to make up slides to be shown along with the playing of this tape. These two "productions" and an increased consciousness of the learner's point of view is additional results of being a participant in the Instructional Objectives Workshop. It is felt that another workshop could prove most profitable to other Harper faculty members.

On the following page is a "Student Course Evaluation" result form marked with averages for 146 students (Spring, 1969) and 40 students from this past summer. In all cases, the responses were higher from this summer's respondents. Note that the average for #1, "Did you Find the Behavioral Objectives in the Syllabus Helpful Educationally?", increased from 3.0 (Spring) to 3.3 (Summer).

This increase can probably be accounted for for two reasons:

1. This summer's classes began the course with the syllabus, whereas the spring's students got the syllabus several weeks after the semester had started.

SOC 101

2. The student academic ability is generally higher during the summer, therefore, they may be more appreciative of learning aids.

Future plans call for refining course and unit objectives and improving ways of helping students reach this objective. Also, effort will be made to refine exams to the extent that they actually do test the concepts the students are learning, i.e., to make the tests more valid. Effort should also be made to provide for individual differences and abilities.

Averages for 3 evaluations

WILLIAM RAINEY HARPER COLLEGE
DIVISION OF SOCIAL SCIENCE

Student Course Evaluation

Course:_____

Section:_____

Please darken the appropriate number on the IBM card for all categories.

Spring 69: N=146
Summer 69: N=40

	Did you find this HELPFUL educationally?					Did you LIKE it?				
	Very	Somewhat	Slightly	Not at all	Not applicable	Very much	Somewhat	Slightly	Not at all	No evidence
	Spring '69			Summer, '69		Spring '69			Summer, '69	
1. "Behavioral objectives" in syllabus	3.0			3.3		2.8			2.9	
	4	3	2	1	0	4	3	2	1	0
2. Lectures	4	3	2	1	0	4	3	2	1	0
3. Discussions	4	3	2	1	0	4	3	2	1	0
4. LP records (e.g., "A Word in Your Ear, Black Man in America")	4	3	2	1	0	4	3	2	1	0
5. Filmstrips, slides, transparencies	4	3	2	1	0	4	3	2	1	0
6. Listening to the seven required tapes	4	3	2	1	0	4	3	2	1	0
7. Written tape reports	4	3	2	1	0	4	3	2	1	0
8. Movies (overall evaluation)	4	3	2	1	0	4	3	2	1	0
a. "The Hunters"	4	3	2	1	0	4	3	2	1	0
b. "Four Families"	4	3	2	1	0	4	3	2	1	0
c. "Elites & Classes in America"	4	3	2	1	0	4	3	2	1	0
d. "The Pride & The Shame"	4	3	2	1	0	4	3	2	1	0
e. "Some of My Best Friends Are White"	4	3	2	1	0	4	3	2	1	0
f. "Smalltown, U.S.A."	4	3	2	1	0	4	3	2	1	0
	Spring '69			Summer '69		Spring '69			Summer, '69	
9. Exams (relate to behavioral objectives and assigned study material)	3.1			3.5		2.5			2.6	
	4	3	2	1	0	4	3	2	1	0
10. Essay questions on Exams	2.9			3.4		2.2			2.7	
	4	3	2	1	0	4	3	2	1	0

Student Course Evaluation,

	Very	Somewhat	Slightly	Not at all	Not applicable	Very much	Somewhat	Slightly	Not at all	No evidence
11. Textbook.....	4	3	2	1	0	4	3	2	1	0
12. Study Guide.....	4	3	2	1	0	4	3	2	1	0
13. Jahoda's reprint, "What is Prejudice?".....	4	3	2	1	0	4	3	2	1	0
14. Other reading material (e.g., "Berelson & Steiner on Socialization," "Biological Aspects of Race").....	4	3	2	1	0	4	3	2	1	0
15. Berger's Invitation to Sociology..	4	3	2	1	0	4	3	2	1	0
16. Goffman's Presentation of Self in Everyday Life.....	4	3	2	1	0	4	3	2	1	0
17. Written Critiques on Berger and/or Goffman.....	4	3	2	1	0	4	3	2	1	0
18. Experiments in class (e.g., "North-Hatt Occupational Scale," "Bogardus Social Distance Scale," "Rumor Clinic").....	4	3	2	1	0	4	3	2	1	0
19. Guest speakers.....	4	3	2	1	0	4	3	2	1	0
20. Relevance of course to real life..	4	3	2	1	0	4	3	2	1	0
21. Total course.....	4	3	2	1	0	4	3	2	1	0

Student Course Evaluation

TO BE ANSWERED BELOW AND ON REVERSE SIDE

1. Do you think it would be more helpful to write a term paper on one sociological subject than to write one or two book critiques?

2. From your vantage point as a student, please describe frankly the weaknesses and or difficulties you have found in this course (objectives, sequence of topics and concepts, reading material, etc.)

3. What suggestions can you make to improve this course and to make it more relevant to real life and your needs?

WILLIAM RAINEY HARPER COLLEGE
Division of Social Science

COURSE SYLLABUS

SOC 101 Introduction to Sociology 3 Credit Hours

I. Course Description:

An introductory analysis and description of the structure and dynamics of human society. The application of the scientific method to the observation and analysis of social norms, groups, intergroup relations, social change, social stratification, and institutions. The course is designed to introduce the student to the major concepts and substantive matter of modern sociology.

II. Brief Outline of the Course:

1 Week I. Unit 1 Introduction & Sociology as a Science
- A. Science and Society
- B. Fields and Methods of Society

4 Week II. Unit 2 Culture and Personality
- A. The Nature of Culture
- B. The Meaning of Culture
- C. Social and Cultural Change
- D. Personality and Socialization
- E. Role and Status
- F. Social Control and Deviation

Exam #1: Units 1 & 2

5 Week III. Unit 3 Social Organization
- A. Groups and Associations
- B. Social Institutions
- C. The Family
- D. Social Class
- E. Social Mobility

Exam #2: Unit 3

3 Week IV. Unit 4 Social Interaction
- A. Social Processes
- B. Social Power
- C. Race and Ethnic Relations
- D. Collective Behavior

2 Week V. Unit 5 Human Ecology
- A. Demography
- B. Rural and Urban Communities

1 Week VI. Unit 6 Social Change and Social Policy
- A. Social and Cultural Change (review)
- B. Social Movements

Exam #3: Units 4-6

III. General Objectives:

A. To provide the student an accurate perspective of sociology as an objective body of knowledge within the framework of contemporary science.

B. To acquaint the student with the theoretical and methodological approaches of sociology, and to investigate the practical uses of the discipline and its potentials.

C. To help the student develop his ability to analyze and abstract the relevant facts concerning human social life. An exposure to and familiarity with sociological concepts and processes will help each student become more aware of his many roles and responsibilities in a complex society.

D. To encourage the student to think sociologically, i. e., to be objective, analytical, and systematic in dealing with any social phenomenon.

E. To provide the student an opportunity to gain a sophisticated awarenesss of his own ethnocentrism and some ability to objectify his own observations.

F. To help the student understand how the parts of the social order are connected.

G. To help the student understand the etiology of various social phenomena.

H. To encourage the student to evaluate his culture and social structure in terms of the nature of some of the institutions which organize and control human behavior.

I. To increase the student's awareness of the powerful effect of the socio-cultural environment on human nature and behavior, and to encourage him to regard social phenomena as patterned and structured by society rather than personal, individual, or particular.

J. To provide the student an adequate sociological base for advanced courses in sociology.

K. To help the student understand the basic concepts of sociology in order that he can successfully deal with various social phenomena and better understand such practical matters as movies, plays, books, and current events. (See Section IV)

L. To help the student further develop his study, communications, and critical analysis skills by critiquing certain taped lectures, collateral books, and completing test essay questions.

M. To encourage each student to strive for personal improvement and intellectual development as one of his primary goals.

IV. Basic Sociological Concepts. The following ten concepts are to be thoroughly understood by the student in order that they may be effectively utilized in analyzing social phenomena:

1. Interaction
2. Culture
3. Norms
4 Socialization
5. Status
6. Role
7. Deviance
8. Groups
9. Social System
10. Institution

V. Behavioral Objectives, Key Concepts, and Media by Unit:

UNIT I (Week 1) INTRODUCTION AND SOCIOLOGY AS A SCIENCE

A. Behavioral Objectives:

The student will be able to -

1. Identify or differentiate between each of this unit's key concepts when defined or illustrated in multiple-choice questions.
2. Explain how the sociologist uses the scientific method in sociological research.
3. Differentiate between the various methods of sociological research.
4. Describe the spirit of scientific investigation.
5. Differentiate between the concepts of intuitive knowledge, scientific knowledge, and common sense.
6. Differentiate between the concepts of ethical neutrality and bias.
7. Differentiate between the type of research questions amenable to scientific and philosophical investigation.
8. Describe what is involved in systematic, objective scientific research.
9. Describe the first step in scientific research
10. Describe what is involved in the observation of phenomena under "controlled conditions".
11. Write an adequate definition of sociology including the purpose and scope.

12. Explain the function of a control group in an experiment.

13. Explain how a random sample is secured in scientific research.

14. Contrast the types of problems the social scientist and the natural scientist study.

15. List the types of problems handicapping sociological research.

16. Explain the major principles to keep in mind about making scientific predictions.

17. List careers open to one who has an undergraduate degree in sociology.

18. Describe the distinguishing characteristic of science.

19. List and explain the distinquishing characteristics of man.

20. List and illustrate the four psycho-social needs of man.

21. Differentiate between the three environments of man.

22. List the characteristics of all living things that are of particular interest to behavioral and social scientists.

23. Explain what the development of human nature is dependent upon.

24. Convey the importance of sociological research findings by describing what facts helped influence the Supreme Court's majority decision in the School Desegregation Case.

B. <u>Key Concepts</u>:

intuition
authority(sacred, secular)
tradition
common sense
science
bias
verifiable evidence
ethical neutrality
objectivity
controlled experimentation
empirical
observation
hypothesis
theory
matched-pair technique
variable
controlling variables
control group
cross-sectional study
longitudinal study
observational study
impressionistic study
statistical comparative study
participant observer study
pure sociology
applied study
case study
value-free
popular sociology
psycho-social needs
distinguishing characteristics of man

PREFACE

On the following pages are some visuals--primarily cartoons and charts--that I have "lifted" mainly from the Playboy and New Yorker magazines, Horton and Hunt's first edition of Sociology, and newspapers in a few instances.

It is my belief that such visuals correlated with lecture material can both clarify and make relevant to real life many abstract concepts.

I would like to especially thank two audio-visual staff members of the Learning Resources Center, Scott Hancock and Dan Harris, for their patience and help in producing the many photocopies and their accompanying transparencies.

F. L. O.

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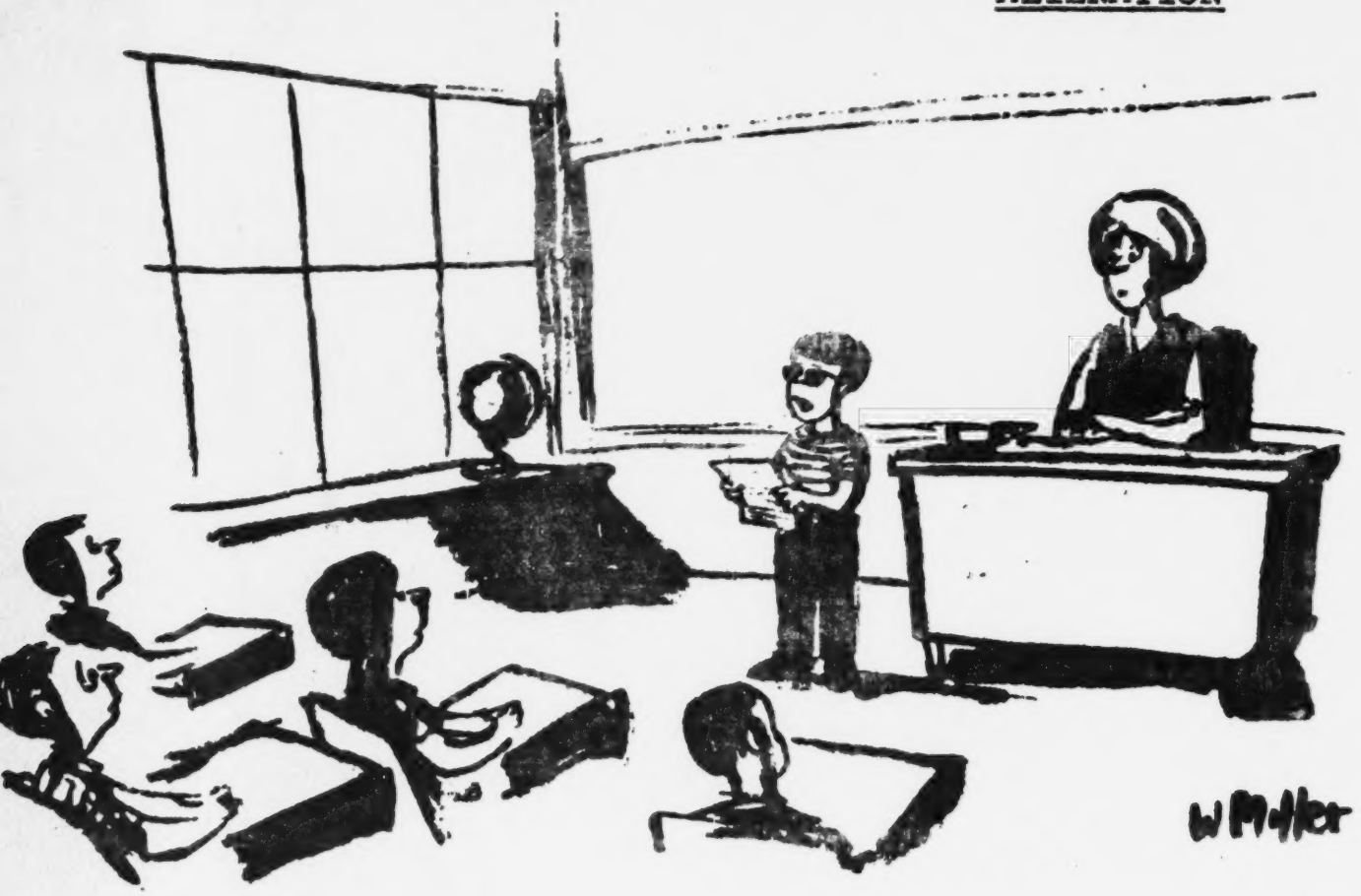

"'How I Went Through an Identity Crisis Last Summer and Found the Answer to the Question "Who Am I?,"' by Ronnie Davis."

Alien. #1

"Miss Tompkins, connect me with somebody."

Alien. #2

ENGLISH
COMMUNICATIONS

ENG 101 - Martin Ryan

ENGLISH 101

The following are two important changes in English 101 resulting from participating in the summer workshop.

1. Objectives for the entire course, on a unit basis, were written and compiled in booklet form. Every member of the 101 teaching staff has a copy. This accomplished two important aims:

A. It insured that the entire teaching staff (full and part time) is aware of both the overall and specific objectives of the 101 program.

B. New or beginning teachers have a comprehensive guide to the organization of the course - including the suggested number of class sessions allotted to each unit - on which they can rely. This avoids the confusion which normally might result when a new or beginning instructor teaches the course for the first time. It also, of course, performs the same service for the large number of part time instructors in the course.

2. The study of the dictionary and the history of the language comprise the first academic unit of English 101. The fifteen objectives written for this unit are also given to the students at the beginning of each semester. These objectives are designed so that if the student can perform all of the learning activities covered in them, he can successfully complete the divisional test on this unit since the test itself is based exclusively on those skills presented in the objectives.

ENGLISH 101 - *continued*

The success of these objectives has led to the conclusion, among a number of instructors, that this unit can be self taught. While some informal efforts on a one class basis have confirmed this conclusion, it is my expectation that the division will approve a plan to use several 101 sections, involving different instructors, next semester (Spring '70) as an experimental group to examine the feasibility of making this a self-teaching unit for the student. The regular sections of 101 will form the control group and all sections will take the same test.

The principal aim here is a unit which is flexible enough to cater to the great variety of individual differences manifested in the large 101 student body. The student who can already accomplish the objectives of this unit can confirm this by successfully completing one of a dozen or so divisional exercises based on previous tests. The student having problems can utilize all of these exercises, with the guidance of his instructor, to improve his skills prior to the divisional test.

While there is nothing final in the ongoing dynamics of both this unit and the course as a whole, the direction is toward a maximum learning situation and the accommodation of student needs.

ENGLISH 101 - UNIT II

GENERAL OBJECTIVES

The learner will be able to demonstrate:

1. His ability to use a dictionary effectively

2. His knowledge of certain basic facts about the history of the English language.

SPECIFIC OBJECTIVES

The learner will be able to:

1. Choose the correct definition of designated words as they are used in a written context.

2. Determine the point(s) at which a word may be divided at the end of a line according to the dictionary.

3. Select the proper pronunciation symbol for a letter of letters in a given word by referring to the pronunciation key on his dictionary page.

4. Be able to identify restrictive labels and indicate their use.

5. List the four dictionaries designated as acceptable for English 101.

6. Distinguish between the original derivation of a word and its ultimate derivation.

7. Identify the language(s) through which a specified word has come, from its original to its most recent derivation.

8. Locate or identify special material which is contained in front or back matter, as well as specially designated charts, etc. in his dictionary.

9. Indicate the meaning of certain abbreviations commonly used in his own dictionary.

10. Be able to name at least one dictionary based on historical principles.

ENGLISH 101 - UNIT II

SPECIFIC OBJECTIVES - *continued*

11. Discriminate between enteries taken from a dictionary based on historical principles and other types of dictionaries.

12. Identify or indicate in writing the primary and secondary major linguistic branches from which English is descended.

13. Identify the three major periods in the English language by names and dates.

14. Indicate the date of the Norman Conquest and important specific linguistic results of this event identifiable in the English language.

15. Discriminate between illustrations or definitions of a prescriptive and descriptive approach to lexicography.

ENGLISH 101 - UNIT II

Dictionary Test

PART II
(Do not use your dictionary or the dictionary page provided.)

15. Indicate by number those items contained in your dictionary:

    1. A list of U.S. Colleges and Universities
    2. A pronouncing gazetteer
    3. Forms of address
    4. Table of weights and measures
    5. A bit of useful bibliographies
    6. An index

16. An important aspect in the formation of Middle English was the introduction of the _____ language(s), due to the _____ in 1066.

17. The English language can be divided into three major periods. Name these periods giving the approximate dates of each:

    _____ _____

    _____ _____

    _____ _____

18. In a dictionary based on historical principles the definitions of a word are given in what order?

    _____

19. What is the name of a comprehensive dictionary based on historical principles which is available in the Harper Library?_____
    It consists of _____ volume(s)?

20. From what major branch of the Indo-European family of languages is Old English descended?

    _____

9/68/101/meg

ENGLISH 102

ASPECTS OF FICTION

There are three questions that we ask, as naturally as breathing, about a story:

1. What happens?
2. Who does it?
3. What does it mean?

The questions are natural, for they represent the fundamental aspects of any story, aspects that in more technical language are labled plot, character, and theme.

Notice that we have used the word aspects--and not such a word as parts. We must not think of plot, character, or theme as a part of a story that can be separated from the story. Each can be thought of separately, and discussed separately, but in actuality they are completely interfused. A plot cannot exist without characters who act and are acted upon; a character fulfills himself only in action; and all human action involves a judgment of values, that is, an idea, a theme. In other words, plot, character, and theme are abstracted from the organic unity which is the story, and when we discuss them we should always be aware that they are abstractions. And when we discuss them, we do so only in order to understand better the nature of that unity, the story, from which they are abstracted.

We make the abstraction in order to see how these aspects--these elements--and others which will come later under our consideration form an organic unity, a unity which is expressive and significant. It has the power to engage our interests and excite our feelings, not by reason of the particular elements that enter into it, but by reason of their interrelations. The unity arising from such a fusion of elements we can grasp as an image of life.

Keeping in mind our general purpose here, the student will do well in reading these stories ("The Man Who Would Be King"--R. Kipling; "The Secret Life of Walter Mitty"--J. Thurber; & "The Lottery"--S. Jackson) and later stories, to ask himself the following questions:

1. What are the characters like?
2. Are they "real"?
3. What do they want?
4. Why do they do what they do?
5. Do their actions logically follow from their natures?
6. What do their actions tell about their characters?
7. How are the individual pieces of action--the special incidents--related to each other?
8. How are the characters related to each other? What are the points of conflicts among them? Which are major & which monor?
9. What is the point--the theme?
10. How are the characeers and incidents related to the theme?

ENGLISH 102

UNIT II Fiction

General Objective

To improve the student's ability in critical reading by utilizing various techniques of analysis and interpretation, in conjunction with short stories and novels of proven merit and distinction, while heightening his appreciation of these works as well.

Specific Objectives

In conjunction with a given story or novel, the student will be able, in written or oral response, to:

1. Discuss plot or plot structure.
2. Discuss or explain the relationship of plot to conflict.
3. Determine the point of view and its effect on a story.
4. Indicate where and how irony is used and to what effect.
5. Define setting and its significance or lack of it, depending on the work.
6. Indicate the controlling or unifying theme.
7. Identify the stream of consciousness technique, when used.
8. Define "exposition" as it relates to fiction.
9. Discuss the function of understatement and restraint.
10. Recognize and indicate the use of foreshadowing.
11. Discuss the way in which a character is (or the characters are) developed.
12. Determine whether or not the character(s) motivation seem justified.
13. Determine whether the author's style and diction are appropriate to the characters and their situation.
14. Recognize and discuss the use of symbolism.

Attachment: Suggestions for Analyzing Fiction

ENGLISH 102

SUGGESTIONS FOR ANALYZING FICTION

Plot and Plot Structure

1. What are the main developments in the plot? Can you summarize the action?

2. What is the point of view? Is it consistent? If not, why not? How is the point of view related to the structure of the plot--the way the material is held together?

3. Can the narrative be divided into parts? What are they? How are they connected? How are parts which are not consecutive related to one another?

4. Does the plot movement contain a climax? How does the author arrange events to build up to the climax? What is the purpose of details and events after the climax?

5. Does the author use one character or a conflict between characters as the focal point of his structure?

6. Has the author arranged the structure of his plot to achieve suspense?

7. Does the author use techniques like motifs, symbols, contrast, or irony to help establish a unity of structure?

8. Do the events occur logically and naturally, on the basis of cause and effect, or does the author contrive the events artifically in order to achieve an effect or purpose?

9. Does the story provide a sense of totality? Do all the events and details contribute to a single effect, impression, illusion, or theme (or patterns of these)? Or is the structure intentionally loose and sprawling (for example, to accommodate stream of consciousness)?

Characterization

1. What means or techniques does the author use to develop his characters? How is point of view related to characterization?

2. What are the important traits of the main character or characters? Do the traits constitute a pattern of character? What details best support your interpretation of the character?

PART VI

DISCUSSION OF PROJECTS

Level of Objective Implementation

Any of the experts, or instructional staff with three to four years experience with this type of instructional development and a number of revisions beyond them, would recognize the imperfection of projects just reviewed in the past section. It must be realized, however, that given the year plus a summer time span, and rather unsettled learning environment of an evening instructional program in a tenant situation in two high schools, and the move to "habitable without hazard" new facilities, not quite finished, that some sizable steps have been taken.

The level of writing and sequencing of objectives needs to be refined in a great many cases to include more tightly worded specifics as to performance levels, criterion levels, levels or domains of the objectives and conditions of performance. Several of the participants are already planning to rewrite their objectives to get more definitive in these areas based on their semester or two tryout (field testing) of this approach. Sharing the objectives with the students has been successful as noted in a number of comments of both staff and students. The participant, like the consultants who used objectives in their teaching, found that the objectives were very useful and highly valued as a guide by the students to learning and studying for exams. The more the objectives were written in specific terms and learner oriented, the more the students used them. While this sounds very basic, the process of developing objectives which are learner-

DISCUSSION OF PROJECTS - *continued*

oriented is not an easy task because the instructor must "unlearn" or break old habits of writing course outlines, syllabi, unit outlines, etc. in teacher-oriented terminology. As mentioned a number of times by the consultants, the teachers they had worked with also had spent a great deal of time just developing objectives.

Concept and Task Analysis Efforts

Very little task or concept analysis activity was revealed in the participants' feedback reports. However, a number of presentations in accounting were refined and restructured, and the unit on the use of the dictionary grew out of investigating and setting limits on the concepts the students were to learn in this unit. The discovery of a concept base in the structuring of the components in sociology was revealed to the instructor after two semesters of field testing his materials based on the current textbook chapter sequence. It is recognized that a complete revision of the sociology student guideline booklet is in order.

In the biology courses, where much energy on curriculum development has been expanded at the national level by such organizations as the NSF and CUEBS, the problems of content and task analysis were not so noticeable. The main efforts in this area were to structure the class sessions, labs, etc. in a way that would be most efficient and productive for the teacher and the student. Partly due to the facilities being

DISCUSSION OF PROJECTS - *continued*

incomplete and some changes in faculty assignments as well as further refinement in objectives now written, a great deal of work remains to be done to pull together the potential that is there with so many courses in biology undergoing this development.

Sequencing and Use of Instructional Materials

Probably the most notable example of this facet of instructional development is in data processing. In the key punch course a variety of techniques and materials were tried during the '68-'69 school year. Such ideas as playing the key punch lessons on a tape recorder to the whole class at once were tried and found inadequate. The latest sequencing and technique that apparently have yielded exciting results for the students is to use the cassette tape recorder at each key punch machine for playback of the recorded lessons. Along with an "open-lab" scheduling, the speed up of learning time over the semester has been fruitful.

Also, increased use of records and tapes for french language instruction have occurred, and should increase now that classrooms where language courses are scheduled have been rigged with a wireless loop audio system. Other materials developed have been largely instructor prepared transparencies for trying out in class, cassettes, tapes, and a few slides and videotapes. Some attempts are bing made to organize and sequence instructional materials for use in the lecture-demo centers. It should be mentioned that a great deal of film

DISCUSSION OF PROJECTS - *continued*

previewing by many staff members have enabled the use of rental films and purchase films to increase.

Evaluation and Student Reactions

While much of the assessment of change and feedback has been reported by the participants, a number of comments can be summarized below:

a) The students involved in the various courses responded very favorably to being let in on the objectives and apparently felt more at ease in the learning situation.

b) The students, like those reported on by the consultants, found it difficult to believe the high correlation between the stated objectives and the exam questions asked.

c) In a number of cases (please refer to previous section for specifics) the student grade averages improved since the implementation of the course revisions.

d) Many of the comments by the participants are written in somewhat lay terminology and descriptions lack the empirical support and evidence found in many research studies on instruction. It must be noted that the college was functioning during this time without the services of a Director of Research and Development. Some student attitude data is now being examined by the new Director. The level of reporting in spite of the lack of hard research backup is on par with reports and articles on the auto-tutorial approach and a recent publication entitled, Instructional Development: A Case Study Approach, prepared at Indiana University.

e) The participants are far more sensitive to the development of tests and examinations than ever before. A number of them have now abandon grading on a curve since it is inconsistant with the improved process of Objectives-Teach-Test.

f) The participant commitment and involvement remained fairly high throughout this time period. While there was much doubt, uncertainty, and concern about the implications instructional development and the objectives approach, all the participants experienced varying levels of success in their first try and want to continue their efforts.

DISCUSSION OF PROJECTS - *continued*

Impact on Other Staff Members

Probably the major areas of impact have been in accounting where other staff members are sharing in the instruction of accounting 101 and have common goals, exams, and instructional materials. In English Composition, having course outlines developed with more specific objectives than in the past, has been very helpful to all the staff teaching these many sections. In the biology courses, the staff is just beginning interelate their objectives and more effort is needed. Partly due to their development efforts towards implementing the auto-tutorial concept in biology, the dental materials course will undergo reorganization along these techniques by the appropriate dental hygiene staff members next fall.

Two of the original participants have left Harper College so the impact has been lessened somewhat across the college. However, in their own way, the others have been able to show to their colleagues that this kind of process is not as threatening or restricting as first supposed. It has also raised the question of time inputs by the faculty and how some kind of "reward system" can be equated to this development time.

Beyond the Campus

Already there are signs of the impact this instructional development beyond Harper College. For example, this fall, the GT-70 Consortium Colleges started a faculty videotape idea exchange entitled, "What's New". About half of the workshop

DISCUSSION OF PROJECTS - *continued*

participants have "explained" their projects on tapes to be sent to other GT-70 members as well as other colleges that are joining the videotape network. Some materials have been exchanged with the staff at St. Louis Community College, and an exchange of information has begun in the sociology area with a Kansas College staff member there who has done some creative organizing of the sociology.

Harper College was also represented at the GT-70 Innovative Institute held January 23-24 at Miami Beach. Mrs. Rose Trunk made a presentation of instructional development in accounting. Her presentation was well received and certainly put Harper in the forefront of this process with the community college representatives from all over the country.

PART VII

FUTURE DEVELOPMENTS AND RECOMMENDATIONS

As reflected by a number of consultant statements and also expressed by the faculty comments in part five, the improvement of instruction is an on-going process. Continued efforts along the direction already started are one of the main concerns of the faculty in this first report on instructional development - UPDATE #1.

It is hoped that like the on-going projects, a periodic report such as this could continue with an UPDATE #2, #3, etc. as a vehicle to share with others, the faculty's trials and tribulations with innovation and change.

There are several other projects being worked on by Harper staff members which should be shared in another report. Such projects are test bank analysis in music appreciation, development of materials for student response to humanities appreciation, and use of the videotape recorders for analysis of student performance skills in marketing and speech courses.

Several suggestions for future developments are offered for consideration as possible alternative ways to increase faculty participation in instructional improvement:

1. Conduct another summer workshop and incorporate the changes recommended by the previous participants.

2. Begin in-service or faculty development sessions on an organized semester basis for a dozen or so faculty.

3. Incorporate a sequence into the proposed faculty in-service program for instructional development.

4. Develop a GT-70 workshop.

5. Validate GT-70 "Ins Group" materials over a semester's time period for potential use as self-instructional units for faculty development.